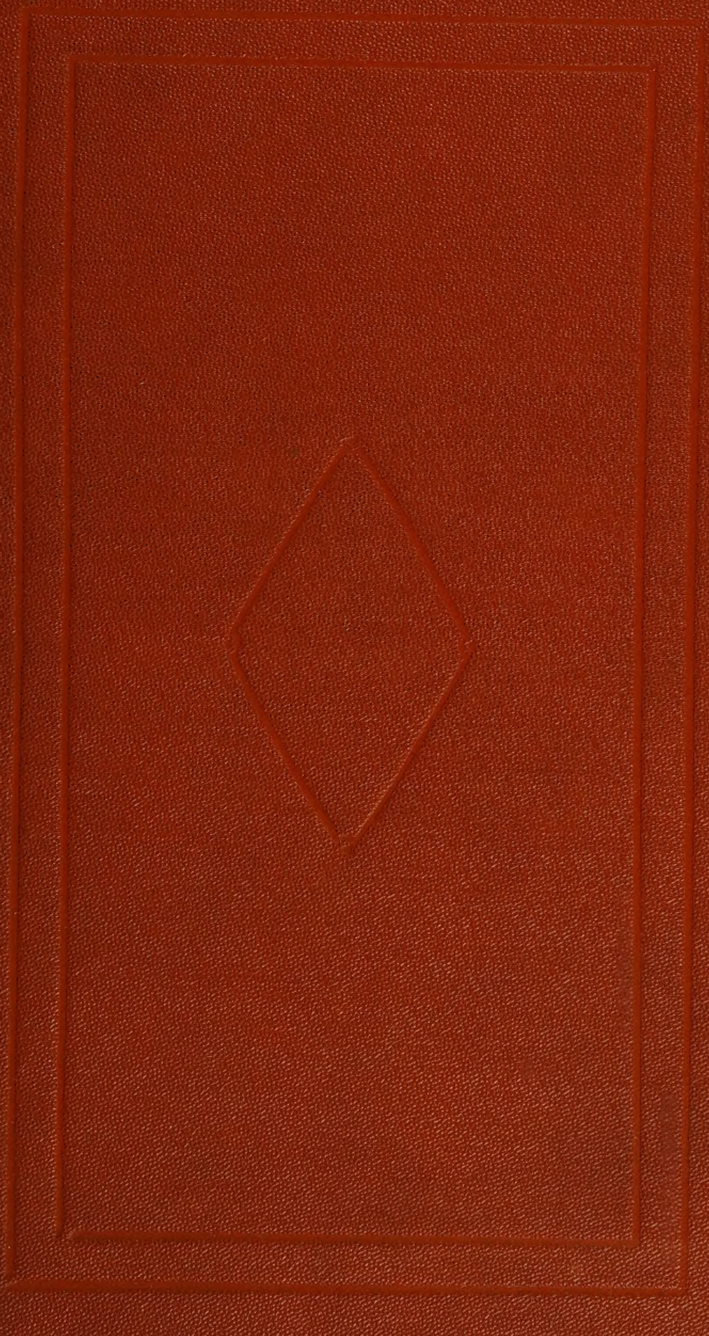

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THE

SURVEYORS' INSTITUTION

(*Incorporated by Royal Charter*),

12, GREAT GEORGE STREET, WESTMINSTER, S.W.

TRANSACTIONS.

VOL. XXXIII.

SESSION 1900-1901.

LONDON:
PUBLISHED AT THE INSTITUTION.
12, GREAT GEORGE STREET, WESTMINSTER, S.W.

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The Surveyors' Institution

(Incorporated by Royal Charter),

12, GREAT GEORGE STREET,

WESTMINSTER, S.W.

OFFICERS, 1900-1901.

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Arthur Vernon (*High Wycombe*)
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Herbert Thomas Steward (*London*)
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1872	*Edward Norton Clifton*	1890	*Robert Collier Driver*
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1876	*Edmund James Smith*	1894	*Thomas Chatfeild Clarke*
1878	William Sturge	1895	Daniel Watney
1880	*Edward Ryde*	1897	*Christopher Oakley*
1883	*Thomas Smith-Woolley*	1898	Robert Vigers
1885	*Edward I'Anson*	1899	Thomas Miller Rickman

The names of those deceased are printed in italic.)

Honorary Secretary.

John Wornham Penfold

Secretary.

Julian C. Rogers

The Surveyors' Institution

(INCORPORATED BY ROYAL CHARTER)

Is established—

1. To secure the advancement and facilitate the acquisition of that knowledge which constitutes the profession of a Surveyor, viz.—the art of determining the value of all descriptions of landed and house property, and of the various interests therein; the practice of managing and developing estates; and the science of admeasuring and delineating the physical features of the earth, and of measuring and estimating artificers' work.
2. To promote the general interests of the profession, and to maintain and extend its usefulness for the public advantage.

THE INSTITUTION was established in 1868, was incorporated by Royal Charter in 1881, and has a total membership of 3,000.

THE INSTITUTION consists of four classes, viz.—FELLOWS, PROFESSIONAL ASSOCIATES, ASSOCIATES, and HONORARY MEMBERS, with a class of STUDENTS attached.

A FELLOW must be more than twenty-five years of age, and must have acquired a practical knowledge of surveying in one or other of its branches as above defined; and must have passed the Examination declared in the Rules of Examination to appertain to the class of Fellows, or some other Examination in the United Kingdom or the Colonies which the Council may declare to be equivalent thereto.* Fellows have the right, conferred by the Charter, to use the letters F.S.I. after their names.

A PROFESSIONAL ASSOCIATE must be more than twenty-one years of age, a Surveyor by profession, in practice on his own account or employed as an Assistant in a Surveyor's Office, and qualified for the class by having passed the Students' Proficiency Examination, or the Professional Associates' Qualifying Examination. Professional Associates have the right, conferred by the Charter, to use the letters P.A.S.I. after their names.

* *The Council possess only a very limited dispensing power as regards the Examinations.*

An ASSOCIATE must be more than twenty-one years of age, not a Surveyor by profession, but his pursuits must be such as to qualify him to concur with Surveyors in the advancement of professional knowledge.

An HONORARY MEMBER must be a person who, either by reason of his position or experience, or his eminence in science, may be enabled to render assistance in promoting the objects of the Institution, but who is not engaged in practice as a Surveyor in Great Britain or Ireland. He has the privilege of being present and taking part at all Ordinary General Meetings, and of access to the Library, but no right of voting, discussing, or otherwise interfering in the affairs of the Institution; nor is he called on to contribute to its funds.

STUDENTS (who must not be under eighteen years of age) qualify as such by passing the Students' Preliminary Examination. Candidates for Studentship who can produce a Certificate of having passed the Matriculation Examination of the University of Oxford, Cambridge, London, or any other University in the United Kingdom, or who have passed, with Honours, the Senior Local Examination of the University of Oxford or Cambridge, or who have obtained a Higher Certificate at the Examinations of the Oxford and Cambridge Schools' Examinations Board, are exempted from this Examination, and may be admitted by the Council on the recommendation (according to a form) of four Fellows and two Associates, or of the Fellow or Associate to whom they are or have been articled; but it is obligatory on all Students to undergo the Proficiency Examination at the close of their Student course, at the time and under the conditions applying in each particular case under the Rules of Examination.

The Council may accord to Students such privileges, subject to such terms, regulations and restrictions, as they shall from time to time prescribe.

Any person desirous of being admitted into the Institution (excepting to the class of Students) must be proposed and recommended according to a form, in which the full name, place of business (if any), usual residence, and qualifications of the candidate must be distinctly specified. This form must be subscribed by him, and signed by at least six Fellow or four Fellows and two Associates, certifying a personal knowledge of the candidate; or by four Members of the Council, of whom the President shall be one, after careful enquiry into the antecedents of the applicant.

The proposal so made, being delivered to the Secretary, will be submitted to the Council, who, on approving the qualifications, will determine the class for which the candidate is to be presented for ballot.

The following are the rates of contribution to the funds:—

	Annual Subscription.			Admission Fee.		
	£	s.	d.	£	s.	d.
Student	1	1	0	—		
Associate	2	2	0	3	3	0
Professional Associate	2	2	0	3	3	0
Fellow	3	3	0	5	5	0

No person can become a Member (other than an Honorary Member) of the Institution, unless and until he pays as his first Subscription to the Institution, in the case of becoming a Fellow of the Institution, the sum of Eight Guineas, in the case of becoming a Professional Associate of the Institution, the sum of Five Guineas, and in the case of becoming an Associate of the Institution, the sum of Five Guineas.

All Fellows, Professional Associates, and Associates, are required, within twelve months after their election, to deliver to the Council an original Paper on some subject connected with the profession, or to make a donation to the Library or Collection.

The affairs of the Institution are under the management of a Council, which is elected annually, consisting of a President, four Vice-Presidents, sixteen Fellows, two Professional Associates, and two Associates.

The Session of the Institution commences annually on the second Monday in November, and continues to the end of May. The Ordinary General Meetings are held on every alternate Monday during the Session. At these Meetings original communications are read on professional subjects, and their merits fully and freely discussed. Every Member has the privilege of introducing one visitor to these Meetings. Members are entitled to a copy of any printed publication issued by the Institution after their admission.

Paper 259.
No. 417.

Bolden
Notting Hill

THE OPENING ADDRESS

BY

JOHN SHAW, President.

AT THE ORDINARY GENERAL MEETING OF

THE SURVEYORS' INSTITUTION,

November 12th, 1900.

First let me express my grateful thanks for the honour which has been conferred upon me by my election to the Presidency of The Surveyors' Institution. I feel that by favour of the Members I have been placed in a very important position as the head for the time being of the Institution, and it will be my earnest endeavour to follow worthily in the steps of my distinguished predecessors, and to discharge the duties of the office to the best of my ability—I hope also to your satisfaction.

When, sixty years ago, I commenced my business life in the office of a country land agent, there were very few facilities for acquiring professional knowledge, and scarcely any of the opportunities which now exist for intercourse and communication between surveyors in London and in the Provinces.

A young beginner in the country had then the greatest difficulty in obtaining instruction and information outside the practical work of the office in which he was engaged, but this want has, I am happy to say, now been supplied by the establishment of this Institution. I think I may therefore venture to impress upon all, and particularly upon our younger Members, the importance of making good use of these advantages, so that the fact of being a Member of the Institution may be, as it is intended to be, a guarantee of knowledge and efficiency in the profession.

Many changes have taken place in the work and practice of surveyors during the past 60 years. In the year 1836 two important Acts of Parliament were passed, one for the Commutation of Tithes in England and Wales, and the other for regulating Parochial Assessments, both of which soon came into operation. The Tithe Commutation Act was the means of bringing into the profession a large influx of young surveyors, of whom I happened to be one, my own experience commencing shortly before the year 1840. The Parochial Assessment Act also gave rise to a great deal of valuation work of a special kind, which, as we all know, has since assumed large proportions: the rating of railways, mines, and public works now requiring special knowledge and skill in this branch of the profession.

The introduction of railways, just at the close of the Tithe Surveys, and the passing of the Lands Clauses Consolidation Act of 1845 for regulating arbitration proceedings, also brought much employment to surveyors The Public Health Act of 1848 and the subsequent Acts (particularly that of 1875 in connection with drainage and water supply) created another special branch of practice, in which many of our Members are now distinguished experts.

Thus I have seen great changes in the practice of surveyors and, I am happy to say, in the scale of remuneration for professional services, now more generally based upon the value of the work done and upon the skill and experience displayed than, as formerly, on the time employed. I have always held that in this, as in other respects, the profession owes a great debt of obligation to our former President, the late Mr. Edward Ryde.

It is, however, rather with my own branch of the profession that I propose to deal. I have thought that it might not be unacceptable to the Institution if, as a land agent, I referred in my Opening Address to some of my own experiences.

In 1840, in my early days, tenant farmers in the Midland Counties were, after many years of difficulty, doing fairly well, as corn and other produce realised good prices and labour was cheap. At that time almost all kinds of farm work had to be carried on by manual and horse labour. The corn averages for the five years to 1840 were as follows :—

	s.	d.	
Wheat . .	55	9	per imperial quarter.
Barley . .	32	4	,, ,,
Oats . .	23	4	,, ,,

I find from actual returns in my possession that the prices of other farm produce were—

Beef . .	6*d*. per lb.
Milk . .	7*d*. to 8*d*. per imperial gall.
Pork . .	7*d*. per lb.
Cheese . .	66*s*. per cwt. of 120 lbs.
Butter . .	9*d*. to 1*s*. per lb.
Wool . .	30*s*. per tod of 28 lbs.

The payments for labour of course varied very much between northern and southern counties, but in my own neighbourhood the following wages were paid :—

Wagoner and Cowman, each	2*s.* 2*d.*	per day
Shepherds . . .	2*s.*	„
Ordinary Labourers . .	1*s.* 8*d.* to 2*s.*	„
Farm boys . . .	9*d.* to 10*d.*	„
Farm women . . .	9*d.*	„

Piece Work

Mowing hay grass .	3*s.* an acre.
Mowing corn . .	2*s.* 6*d.* an acre.
Reaping corn . .	5*d.* per thrave of 24 sheaves, or 10*s.* to 12*s.* an acre.
Thrashing by flail .	4*s.* per quarter.

The farm labourer, while receiving these low wages, had to pay dearly for bread, and cottages, except on some large estates, were very small and poor. Those whose experience is of a comparatively recent date can have no idea of the discomforts which some labourers endured both as to cottage accommodation and the great distances which they had to travel to and from their work. There were, however, many exceptions in this respect, and as a rule a more kindly feeling existed between master and servant than, unfortunately, is now the case.

The change from the old poor law system was gradually making itself felt, and it is probable that the abandonment of outdoor relief and of the many allowances formerly made to labourers and their families accounts for the rise in wages which began about this period.

I believe that farm rents in 1840 were based to a great extent upon the price of cattle, corn, and cheese, for at that time there was not much income from other sources, or many outgoings beyond rent and labour, as rates were low and on a reduced rateable value, in some cases about one-third less than the rental value of the farm.

The establishment of the Royal Agricultural Society and the first meetings at Oxford and Cambridge gave a great impetus to agriculture. At the Derby meeting in 1842 there was a wonderful exhibition of live stock and improved implements. Both landowners and tenant farmers took the greatest interest in the show, and its effect both on stock and implements, and the improvement from that time in farm management was very marked indeed.

With a powerful Government supposed to be friendly to the landed interest, there seemed a promise of a great revival in all agricultural matters throughout the country. Many poor cottages were either removed or improved, and new and commodious cottages were built in large numbers; this was also the case as regards farm houses and buildings. Experiments and improvements in cropping and in the use of bones and guano and other fertilisers also became general, and the teaching of M. Liebig and others in agricultural chemistry attracted much attention among many of the leading agriculturists.

The gradual introduction of railways naturally caused further marked changes, and proved advantageous to many districts by affording increased market facilities.

But the repeal of the Corn Laws in 1846 and the occurrence of the Irish Famine in 1847 gave rise to a great feeling of uncertainty, though allayed to some extent by the discovery of gold in Australia, which certainly had a great effect both upon trade and agriculture.

A good deal of strong arable land was laid down to permanent pasture, and in my own locality and other districts a large expenditure was made by landowners in deep draining and other permanent improvements. A better and more liberal system of tenant right was introduced, and much attention was paid by landowners to provide for the difficulties which then appeared to threaten agriculture. There came, however, a favourable change, and (except for the cattle plague, which was severe and disastrous in 1866 and subsequently), a general revival took place, rents increased, and landed property was much sought after and commanded high prices. It should be mentioned that the passing of the Contagious Diseases (Animals) Act conferred great benefit upon the country generally.

During the prosperous years which ensued, farmers and others made a good deal of money, but when the next depression came there was unfortunately very little available farming capital to meet the emergency. Charges of extravagance in the more prosperous times were made against tenant farmers, and no doubt much money was spent that should have been laid by; but the same charge might, I fear, be brought against others, and perhaps it might be better if all classes of the community would revert to greater simplicity of habits and requirements.

The depression which began in 1875 and 1876, and was rendered acute by the extremely wet season of 1879, was severely felt both by landlords and tenants, and had a remarkable effect upon all dealings with agricultural land. Rents went down rapidly, and it became difficult to let ordinary agricultural land except under great concessions. Many farms fell out of occupation, and many old landowners, dependent upon comparatively limited estates, were practically reduced to poverty owing to mortgages and other charges which had been piled upon the land under prosperous circumstances, and which could not be met, in some cases, even by selling the whole property, while in the case of a sale the number of years' purchase was much reduced upon a reduced rental.

In former times the income derived from the public funds regulated to a great extent the value of agricultural land, whereas for some years during the depression the price acted in an inverse ratio, for as the funds increased in value, agricultural land seemed to go down. Thus the depression was felt not only in the letting but also in the sale of agricultural land, and there was no competition in land investments except in the case of land near a town and possessing a building element, in which a good deal of speculation took place.

At the beginning of the depression large percentage remissions upon the rentals were made by landlords in the hope that, as seasons improved, the times would improve also.

The Royal Commission which was appointed in 1880 to inquire into the cause of agricultural depression and its remedies, concluded that with a return of better seasons the evil would pass away. Many eminent men of great experience were of the same opinion, among them several Members of the Council of this Institution, as appears from a statement prepared by them which attracted a good deal of attention in Parliament at the time. But when it was found that low prices continued from year to year, with no prospect of any change for the better, rents had to be greatly and permanently reduced. Unfortunately, however, many tenants as well as landowners had to succumb altogether.

In some districts, however, a new trade in milk was gradually established, which proved very beneficial Large quantities of milk were daily sent to London, Manchester, and other large towns, and thus many tenants were kept from going to the wall. The wholesale price of milk at that time averaged in the summer season about 8*d.* per imperial gallon after paying railway carriage, which was a very remunerative price. Cheese factories and butter factories were also established. The cheese factories, although useful in some outlying districts, did not succeed generally as the trade extended, and the wholesale price of milk became much reduced, in some cases to not more than 5*d.* per imperial gallon in summer. But milk and butter factories (where favourably situated) were more successful, and there is no doubt that butter of a uniform good quality made at these factories, or even in a small way at home on the improved method, has fetched greatly improved prices, not only when sold wholesale but also in the local markets.

While the difficulties in connection with the ownership and occupancy of land became more and more serious, the position of the labourer greatly improved, although the amount of manual labour upon a farm has been much reduced by the introduction of improved machinery and implements for almost all kinds of farm work.

Much has been done during the time of depression towards improving the breed of cattle and horses (particularly shire horses), and the rearing of poultry and production of eggs and the cultivation of garden produce in favourable localities, with great advantage to tenant farmers.

Although it has been considered that large farms may be more economically managed, proportionately, than smaller farms, it is now, as a matter of fact, very difficult in the Midlands to let farms of more than 200 acres, while those of 100 to 200 acres and less are much sought after: the reason being that the smaller holdings may to a great extent be managed by the tenants themselves without depending so much on hired labour. Certainly those who can give close personal attention and some personal labour have been lately the most successful farmers. Of course this does not apply to the large farms in Wiltshire and other counties, which cannot practicably be divided, and can only, perhaps, be carried on as heretofore.

In my own experience the rent of agricultural land has been reduced from 10 to 40 per cent. according to position as regards markets and other circumstances, and taking into consideration the ordinary charges upon the land. Of these, tithe rent-charge and land tax are in nearly all cases now paid by the landlord, but there are now piled upon the land a number of rates and charges which did not formerly exist, and which, on any revision of taxation, ought not to be charged upon it. This is a matter deserving close attention in the future. Many owners of settled estates have made such concessions to their tenants that they would be in a better position if they sold their property, even at the late low prices, so little income being left after making the allowances and paying off the annual charges. If landlords dealt with their estates on strict commercial principles, many of the tenants, and particularly the small occupiers, could not live.

Many of us could give instances in our own experience in which as much as 25 to 35, and even 50 per cent. in some cases, of the annual rentals have been spent annually by owners of agricultural estates on better buildings and homesteads, to enable tenants to improve their stock management. Great sympathy has also been shown, and substantial assistance rendered, by landlords in cases of special difficulties and loss, and it is to be hoped that the good feeling which has so long existed between landlord and tenant may continue in the future.

I have alluded to the great fall in the prices of farm produce and the increased payments for labour since 1840.

I find that the average prices for five years to the end of 1899 are as follows:—

	s.	*d.*	
Wheat . . .	27	10	per quarter.
Barley . . .	24	3	„
Oats . . .	16	4	„

Other farm produce:—

Beef . . .	6*d.* to 7*d.* per lb.
Mutton . . .	8*d.* and 9*d.* per lb.
Cheese . . .	55*s.* per cwt.
Butter . . .	10*d.* to 1*s.* 3*d.* per lb.
Wool . . .	7*d.* to 8*d.* per lb.

The payments for labour at the present time average about as follows:—

Wagoner 18*s.* a week and cottage 2*s.* = 20*s.*

Ordinary labourer 16*s.* to 18*s.* a week and sometimes a cottage free

Piece Work.

Reaping corn which cannot be mown by a machine 14*s.* to 15*s.* an acre.

In some cases 18*s.* to 20*s.* an acre.

But it is not only with the increased cost of agricultural labour, but also with its scarcity and inferior quality, that the farmer has now to contend. In former times a great deal of what may be termed foreign labour could be obtained from Irishmen and others who were available periodically in time of harvest, but no supply of this kind can now be relied on.

Referring to the average prices during the last century from 1800 to 1899 inclusive, we find that—

	s.	*d.*	
Wheat has averaged	57	0	per imperial quarter.
Barley „	34	11	„ „
Oats „	23	8	„ „

And although the tithe rent-charge has for some years been so low, the tables show that £100 fixed by the Commutation Act has, during the 64 years from 1835 to 1900, averaged £96 11*s.* 2*d.*; but for the present year it is only £66 15*s.* 9¾*d.*

	Wheat.		Barley.		Oats.	
	Price per Quarter.					
	s.	*d.*	*s.*	*d.*	*s.*	*d.*
The average prices of corn for the five years previous to 1840 (as before given) were	55	9	32	4	23	4
And the average prices for five years to the present time .	27	10	24	3	16	4
The reduction between 1840 and 1900 =	27	11	8	1	7	0

Taking the corn averages for the five years previous to 1870 the average prices will be found to be :—

	Wheat.		Barley.		Oats.	
	Price per Quarter.					
	s.	*d.*	*s.*	*d.*	*s.*	*d*
	53	7	37	11	25	3
For five years to the present time as above . . .	27	10	24	3	16	4
Reduction between 1870 and 1900 =	25	9	13	8	8	11

This shows a difference of 27*s.* 11*d.* per quarter in the price of wheat between the five years to 1840 and the five years to the present time, and 25*s.* 9*d.* per quarter between the five years to 1870 and the five years to the present time, so that we may safely take it that there has been a reduction of at least one-half in the value of the wheat crop. This is a most serious depreciation, and one of the chief causes of agricultural depression.

Notwithstanding the considerable depreciation in barley and oats, there would probably not, on the whole, taking all other farm produce together, be much practical reduction in the farmer's gross income from all sources (except wheat). The labour bill and other expenses have greatly increased, but, on the other hand, railways and other improved means of transit, by giving greater facilities of marketing, have enabled tenants to overcome many of the difficulties with which they have been beset.

I think it is now generally felt that there is but little prospect, in the near future, of any increase in the price of cereals, and that we must accommodate ourselves as far as we can to the existing conditions. Most agriculturists have, as far as possible, accepted the fact and, with the experience of recent better seasons and an improved yield, have to some extent overcome the worst of their troubles, and those who have, by patience and courage and attention to business, done what they could, are in a much better position than they were a few years ago, though there are unfortunately still some tenants in great difficulties.

Years ago small occupiers or cow-keepers had a good trade in milk in the neighbourhood of large towns, and accommodation land commanded high rents, but in consequence of farm tenants a few miles away taking up the milk trade, there has been severe competition with the small milk sellers, who have, in many cases, given up their land and purchased milk from the larger farmers to retail amongst their customers; so that the rents of accommodation lands in urban districts have been very much reduced, and the rates and payments on such lands have much increased.

Difficulties are now frequently cropping up in Rural Districts under by-laws really applicable to Urban Districts only.

The effect of these by-laws is to make it necessary in all alterations of premises, or the erection of new buildings in future, to supply plans and specifications to the Sanitary Inspector, whether such work relates to a populous district or to a country village, or even to detached farm premises. I think that some exception should be made with reference to an isolated farm house and buildings and also to detached premises in a country village.

The Acts regulating the ventilation, drainage and area of cow-houses are most important, and have a far reaching tendency. They are good in their way, and might be carried out in all new buildings, but it would be a serious and expensive undertaking to remodel altogether the present cow-sheds and premises.

A good deal of dissatisfaction has been felt in the country with reference to the requirements of the model regulations issued by the Local Government Board for the guidance of local authorities in framing regulations under Section 13 of the Dairies, Cowsheds, and Milkshops Order, 1885.

It was felt that the 800 cubic feet of air space required, per cow, was excessive, and the Council, at the suggestion of the Counties Palatine Provincial Committee, approached the Board on the subject with a view to some modification of this requirement, with the result of eliciting an explanation from the Board to the effect that they did not propose to lay down any requirement as to cubic space in the case of cowsheds the cows from which were habitually grazed, but no modification of the requirement could be made in cases where the cows were not habitually grazed out of doors.

It is probable that this will to some extent meet the dissatisfaction which prevails on the subject, and will tend to lessen the very considerable additional difficulties with which the milk trade was threatened.

It has been comparatively easy to give my experiences during the past sixty years, and to comment on the difficulties which tenant farmers have had to endure, and also on the sacrifices made by landlords to assist them; but it is not so easy to say what are the probabilities of the future, and I approach this part of my subject with great diffidence.

There have been from time to time prognostications of a very pessimistic character. It has been said on the one hand that corn-growing and meat-production are practically things of the past in this country, and that the home market for milk, cheese, and butter is also seriously threatened, while on the other hand more favourable prophecies have not been wanting, nor has there been any lack of practical suggestions for improvement; but in this connection we have, I think, something to learn from the past. Agriculture has seen so many alternations of prosperity and depression in the past, that these facts alone should teach us to look with hope to the future, should encourage us to be patient under difficulties, and make us careful in good times to provide as far as possible for times of depression, as it is in the nature of things that agriculture must always be greatly affected by the seasons, whether they be good or bad. There never was a time when it was more desirable to cultivate the good relations between landlord and tenant which have existed in the past, while at the same time it was never more necessary to insist on a strict adherence to the contract of tenancy, especially as regards the maintenance of a good condition of the holding, if these friendly relations are to be preserved. It seems unnecessary to say that the rent which a tenant is called upon to pay should be fairly fixed with due regard to the condition of the land and proximity to railways, roads, and markets, as well as to the convenience of the house and premises (which are so important), and also with reference to rates and charges, whether paid by landlord or tenant, a fair allowance being made for interest on tenant's capital. It is my experience that many of these questions have not been so carefully considered as they should have been, and that no sufficient distinction has lately been made between holdings of different characters and possessed of different advantages.

A great deal has been said about the Agricultural Holdings Acts of 1875 and 1883, as well as the new Act of 1900. I do not at this point propose to discuss the latter measure, but I believe that under the two former Acts a great deal was done to improve the agreements with agricultural tenants and the allowances to be made for compensation on quitting. At the same time some diversity of opinion has arisen as to the principle in making these valuations, and in many cases it is difficult, to arrive at what is fair and just even with every disposition to do so. I will only say here that while an offgoing tenant is entitled to a fair remuneration for all un-exhausted improvements made by him before quitting, taking into consideration the mode of management, the incomer should not be called upon to pay for anything for which he cannot be recouped in the ordinary way of farming. This question of tenant right is a most important one.

I think there is no doubt that there must ultimately be a great change in many of the present holdings. The very large farms will probably remain unaltered and be let to the present or other similar tenants at a low rental, in order to avoid the outlay for additional homesteads and buildings. Many of these farms are the result of a strong feeling among many landowners in the Midland Counties, sixty years ago and subsequently, that small holdings should be thrown together, as it was considered that a farm of from 400 to 600 acres could be better and more economically managed in proportion than the smaller farms, and large homesteads were erected accordingly. This has proved a great mistake, and it is now very difficult to let large farms. The rents of these large farms have gone down very much (in some cases 40 to 50 per cent.), and in consequence of the labour difficulty very few tenants can be found to undertake such occupations. I am therefore of opinion that, generally, large farms in the Midlands should be reduced in size as far as practicable, to farms of say 150 to 200 acres or thereabouts, so that the tenant will be to some extent more independent of the labour question, which is now becoming so acute. Certainly the tenants of this class of farms have lately proved the most successful farmers. I have had the satisfactory experience of dealing with men who have been farm labourers, and who by great industry and frugality have succeeded in becoming tenants of small farms of 50 to 100 acres under liberal landlords, and they have generally proved very satisfactory tenants.

What may be described as small holdings proper, have on some estates, and under some circumstances, been, and may, I think, continue to be, very successful, but generally it will be difficult for the tenants of such small holdings to secure a livelihood without some other means of subsistence. I have for many years had to do with a large number of small tenants, and such of them as carry on some other trade or employment have done fairly well, some of them for instance making an income from poultry-farming in favourable localities. It has been proposed that such small occupiers should be provided with means to purchase their holdings, but some of us will remember the abortive scheme of Feargus O'Connor and its unfortunate termination, as well as the failure of other similar societies in the disastrous times of twenty to thirty years ago. My opinion is that this or any other similar plan cannot be compared with the system which at present generally prevails on large estates. Small tenants occupying under a large landowner at the usual moderate rent are better off than they would be if they purchased the freehold of the land and paid or allowed themselves a very moderate rate of interest on the purchase money, and in time of distress (the possibilities of which must be considered in the future as in the past) such cases would prove very unfortunate. What I have said about small tenants also holds good of the large occupiers, whose capital is equally needed for working the land to advantage.

The low price of cereals, and particularly of wheat, is a serious matter for the farmer. I have already given some averages which show an enormous reduction in prices during lengthened periods. Even taking the last thirty years, it will be observed that wheat has decreased from 53*s.* 7*d.* to 27*s.* 10*d.* per quarter, barley from 37*s.* 11*d.* to 24*s.* 3*d.* per quarter, and oats from 25*s* 3*d.* to 16*s.* 4*d.* per quarter. As regards wheat, it has been assumed by some persons that cheap bread in this country has been assured for all time to come, and although I cannot see any reason to doubt the continued large production of wheat in America and other parts of the world, it was somewhat surprising to hear from Sir W. Crookes, at the meeting of the British Association at Bristol in 1898, that a scarcity of wheat-growing area was within appreciable distance, and that wheat-growing land "all "over the world" was becoming exhausted. He, however, added that England in the matter of wheat-growing is as great as ever it was, seeing that a considerable area might readily be added to our wheat acreage were prices to warrant such a step. This is no doubt correct, and notwithstanding the immense importation of wheat, and the consequent low prices, this view of the question is something to rely upon in the future. According to the late Sir J. B. Lawes and Sir J. Gilbert, Great Britain has produced more per acre of any staple food suited to our soil and climate than any country in the world. Although from a national point of view we should be glad to see more profitable wheat-growing in England, the time may come when it may be of the utmost importance to us to have something to fall back upon. Considering the immense quantity of wheat which we import annually, and the low price paid for it, I do not think the British farmer could be advised to take the risk of waiting for any change; we can only deal with the circumstances of the near future as they arise.

Therefore there seems at present little prospect of wheat proving a paying crop. Barley does not seem to have been affected by the repeal of the malt tax, and the price is low; oats are also at a low price; and all that can be done is to give attention to the production of the best quality of anything most adapted to the farm, including the breeding of horses, cattle, sheep, and poultry. If this is done, the low price of wheat will not so seriously affect the future of farming.

In my opinion strong arable land should be reduced to permanent grass wherever possible, and that which is allowed to remain under the plough should have a long rotation of crops, from seven to eight years (three or more years in seeds if practicable) so that the corn crops in the course, although few, may be likely to be productive. While the seeds remain, the labour will be small and the expenses kept down to the lowest limit. The land will also be kept in good heart and condition. This system, with the application of lime in each rotation, familiar to me many years ago, has been attended with great success. The management of the grazing lands which suffered from the disastrous floods of twenty years ago might also be much improved.

I have before referred to the milk trade and to milk and butter factories, and also to the better class of butter now made at home on the improved method, which I am glad to find is now much appreciated. I think it most desirable that in the future more attention should be paid to these matters, and that if this were done we might reasonably hope that a good deal of trade in butter at present in foreign hands would be diverted to our own country. I am glad to find that arrangements are being made to secure fair prices for milk by the aid of farmers' associations in various counties.

For the grazing of cattle and the production of milk, nothing is of more importance than an ample supply of good water. In consequence of the great extension of the system of subsoil drainage, the rains now pass away so quickly into the rivers and streams that springs have for some years been very low, and during dry times there has lately been a great scarcity of water both for cattle and for household purposes.

It appears from the experiments of practical engineers that a large quantity of water might with proper management be impounded without interfering with the necessary river supply. More than thirty years ago I was engaged with the late Professor Anstead and the late Dr. Letheby in testing the flow of water in a great part of the River Derwent in Derbyshire, and we found an immense amount of available water in the valley of the Derwent which could not be accounted for except by underground springs, which I have since proved and utilised. I should also like to refer to Mr. Mansergh's wonderful work in Wales for the supply of water to Birmingham, where, after providing 27 millions of gallons daily for the necessary compensation water for the rivers flowing from the valley, he estimates an excess of 72 millions of gallons daily available for Birmingham and other places, and this water, if not so impounded, would flow rapidly away and be of no practical use. This illustrates what might he done on a small scale in may parts of England, and I should be very glad if the subject could be taken up by some of our engineering members.

But the labour question is after all the most serious of the difficulties which affect agriculture at the present time, and which will I fear continue to do so in the future. All sorts of plans and suggestions have been put forward by way of remedy. Of course everyone is glad to know of the improved position of the farm labourer, as regards cottage accommodation, weekly earnings, and other advantages which he now enjoys, but which fail for some reason to keep him on the land. I fear it is the wife and the growing up children who are in many cases responsible for a good deal of this; but except for the shortened hours of labour in towns and the half-holiday on a Saturday, I do not think that many of the men themselves would care to migrate to the town, particularly as in some cases they are not so well off in weekly earnings in the town as in the country. I could mention many actual instances in support of this view. The old-fashioned plan of having more young men as farm servants to live in their master's house kept the men, as they grew up, more in touch with farming. This system no longer exists, and, as a result, young lads get away from home early without any fixed employment, and drift to the towns, where they can have greater freedom as to working hours and find amusement after the day's work is done. I am afraid also that school board education, although good in principle, does not increase the feeling of attachment to the land, but rather encourages a distaste for country life. The recent report of Mr. Wilson Fox to the Board of Trade is valuable and interesting as showing the improved position of the agricultural labourer, but it does not give any practical suggestion for bringing back the labourers to the land.

Let us hope that, by persistence in the kind and considerate treatment of the labourer and his family, we may lead him gradually to the conclusion that a country life will bring more real comfort and satisfaction than life in the town.

Referring to the Agricultural Holdings Act, 1900, which comes into operation on the 1st January, 1901, it will be remembered that a large representative meeting was held in this hall on the 9th April last, when the whole subject was thoroughly discussed, and it is satisfactory to note that some of the suggestions made at that meeting have been embodied in the Act. There are some parts of the Act which may not be satisfactory to those who entertain extreme views one way or the other, and it would, I think, have been better if we could have had a consolidating Act embodying the present Act with the sections of the Act of 1883 which are retained, and the other Acts which are also included. Without entering upon any further detail, I am of opinion that the Act of 1900 may be considered a fair settlement of the question and, I trust that it will be accepted as such both by landlord and tenant.

I have given my own personal experience of agricultural matters in the past, and have ventured to make some suggestions for the future. Although there are still many difficulties to contend with, I think we may reasonably hope that with sufficient capital, and with judgment and care, farming in England under ordinary circumstances may yet prove fairly satisfactory.

In conclusion I think we may congratulate ourselves upon the satisfactory position of the Institution, and of the completion of the excellent premises in which we are now assembled, which are so well adapted for the business of the Institution, and which are all free from debt.

Mr. ALBERT BUCK (Fellow) asked the meeting to join him in a very hearty vote of thanks to the President for his able Address, which was specially valuable as an historical review of the state of agriculture during a long period of years, compiled by a land-agent than whom there was none better qualified to speak on the subject. He could fully agree with the President when he said, " Although there are still many difficulties to " contend with, I think we may reasonably hope that " with sufficient capital, and with judgment and care, " farming in England, under ordinary circumstances, " may yet prove fairly satisfactory."

He thought, that at present, the greatest difficulty with which British agriculturists had to contend was the labour question. There was no doubt that, from various causes, labour had left, and was still leaving, the country for the towns. He believed that this was, in the first instance, greatly to be accounted for by the wretched state into which so many of the farm cottages had been allowed to fall. The younger generation were growing more and more dissatisfied with the homes in which their fathers lived, and, as a consequence, being free to migrate, they did so, and drew others with them.

He was glad to think that in these later days this state of matters was becoming very generally altered; indeed he feared things were rather tending to the opposite extreme. There was for instance the sanitary authorities, against whose methods he had nothing particularly to complain, except that when a tenant wanted something done which his landlord did not think necessary, he at once called in the sanitary inspector, and very soon had his way.

He had quite recently asked a tenant how he got on for labour in harvest time, and was told that he did very well now that good cottages had been erected on the estate. He had many good tenants who had brought up families and kept them with them. They had excellent gardens with fruit trees planted for them, and they appreciated their homes, and having become attached to them would not willingly leave them. Everyone knew how one got attached to a comfortable home.

During the discussion of the provisions of the new Agricultural Holdings Act, which took place in April last in that room, he had expressed a wish that "the " legislature would let the whole thing alone," and he still retained the views of which that was the expression. The time had now arrived when tenants were perfectly capable of taking care of themselves. They knew how to make agreements, and it was quite well that they should. He remembered, as the President would, the time when a tenant farmer would sign any agreement which was put before him, and if one said to him, after he had signed, "Well, you have taken the farm, what rent do " you pay ?" he would say, "Oh, so and so." "Is there any " tithe to pay ?" "I suppose so; I don't know, I didn't " ask."

But that was all changed now, and tenants, as he had said, were perfectly capable of making agreements. He hoped therefore, as he had said, that the legislature would leave things alone and let landlord and tenant settle matters between themselves.

Mr. DANIEL WATNEY (Past-President) desired to cordially support the vote of thanks to the President for his address. He did not think it was possible to have a more exhaustive *resumé* of the conditions of farming during the period between 1840 and the present time. It was not given to many men to have an experience of 60 years, and to be able, from their notes and their memory, to write such a summary of the whole matter, which he felt sure the Members would find would amply repay careful perusal.

He cordially supported the President's view that if one now wanted to let a farm of 150 or 200 acres, it was much more easily done than where the farm was one of 700 or 800 acres.

He also quite agreed that it was well to try to subdivide, but the thing which stood in the way, was the expense.

There were very few landowners who were able to subdivide a farm of, say, 1,000 acres, into smaller ones of 200 acres, and provide suitable homesteads and accommodation. It could only be done by large landowners who were not dependent on their farms for their income.

THE PRESIDENT said he was extremely obliged to the Meeting for having so patiently listened to his Address, in which he had endeavoured to give the result of his long experience, and had ventured also to say something about his views of the future, and he could only hope that at least something that he had said might be of service to those who, like himself, were interested in agriculture and its difficulties and prospects.

The vote of thanks having been put, and carried unanimously, the Meeting then adjourned.

To illustrate Mr A. T. Walmisley's Paper on "The Roofing of Farm Buildings".

The Surveyors' Institution Transactions, Session 1900-1901. Vol. XXXIII. to face page 27

FIG. 1.

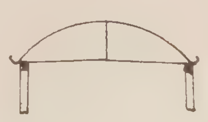


FIG. 2.

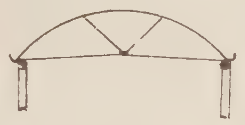
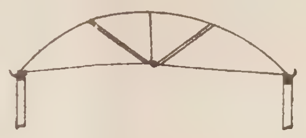


FIG. 3.



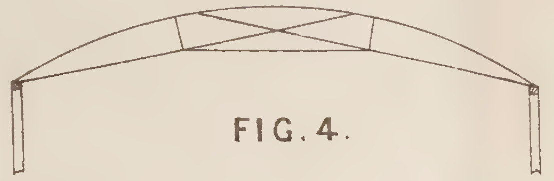


FIG. 4.

FIG. 5.

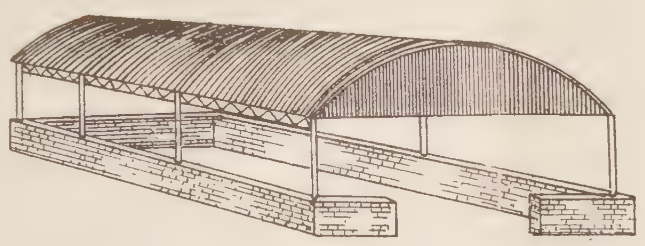


FIG. 6.

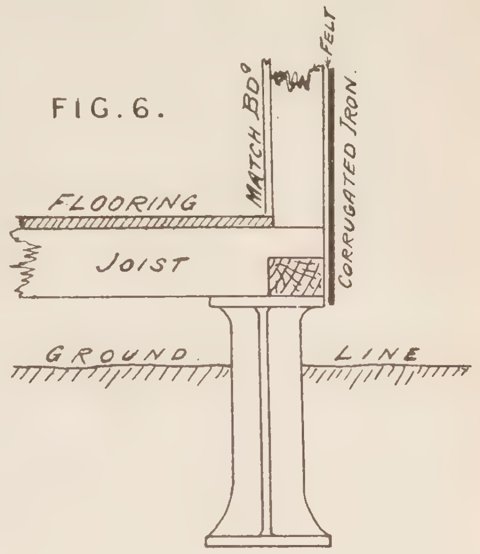

MATCH BDG
FELT
CORRUGATED IRON.
FLOORING
JOIST
GROUND
LINE

FIG. 7.

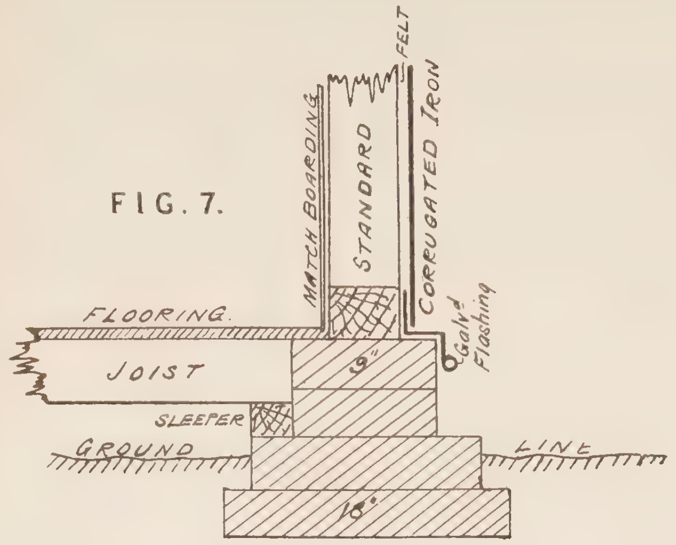

MATCH BOARDING
STANDARD
CORRUGATED IRON
FELT
FLOORING
JOIST
9"
Galvd Flashing
SLEEPER
GROUND
LINE
18"

FIG. 8.

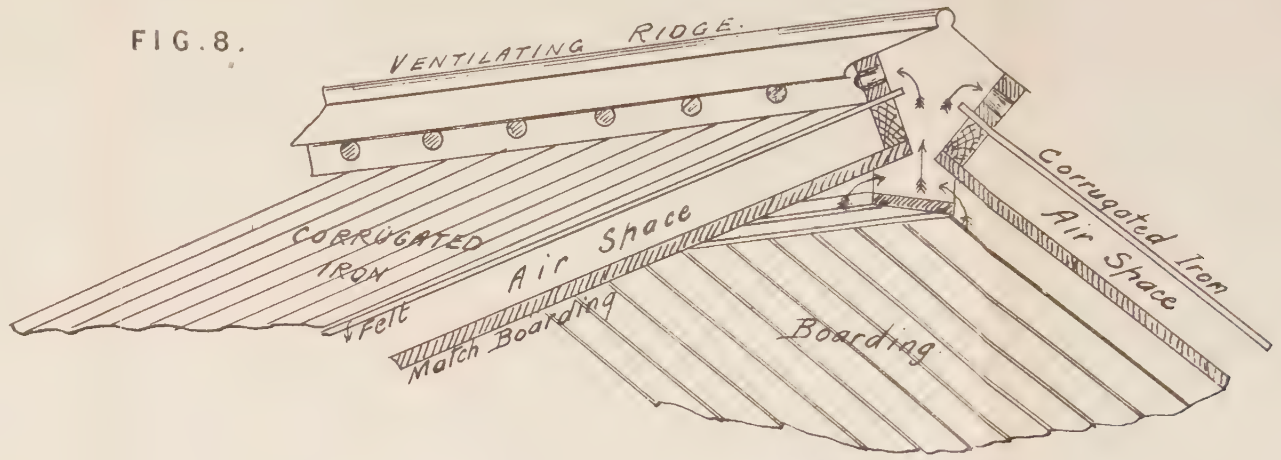

VENTILATING RIDGE.
CORRUGATED IRON
Felt
Air Space
Match Boarding
Boarding
Corrugated Iron
Air Space

FIG. 9.

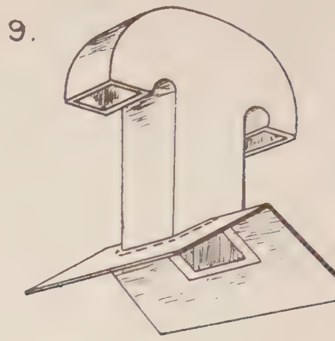


FIG. 10.

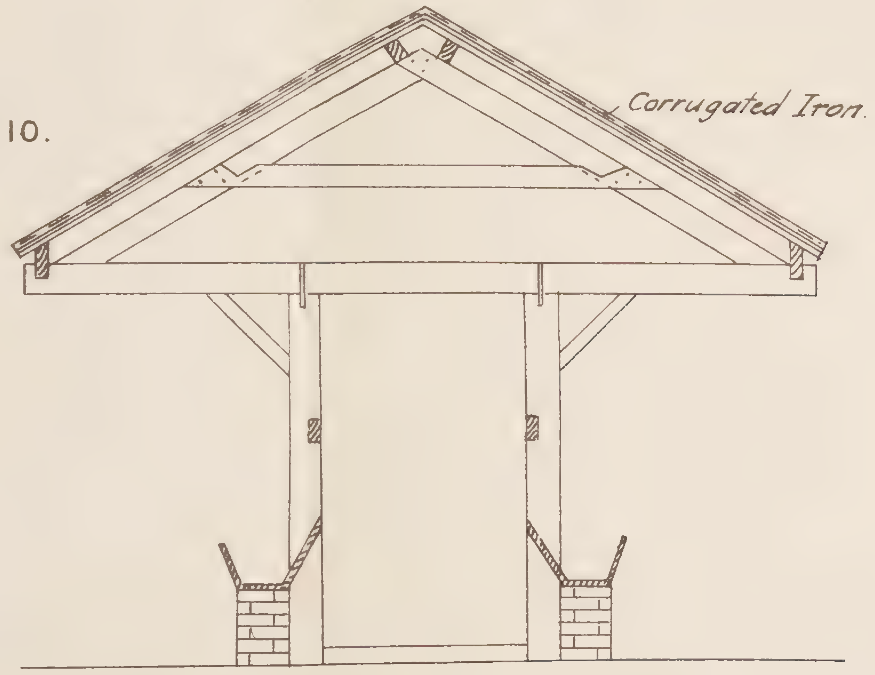

Corrugated Iron.

FIG. 11.

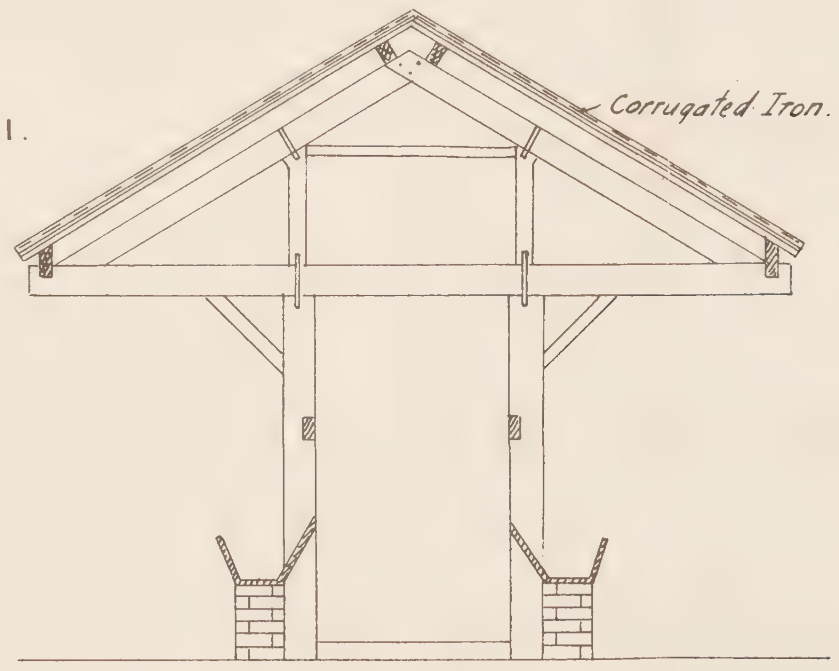
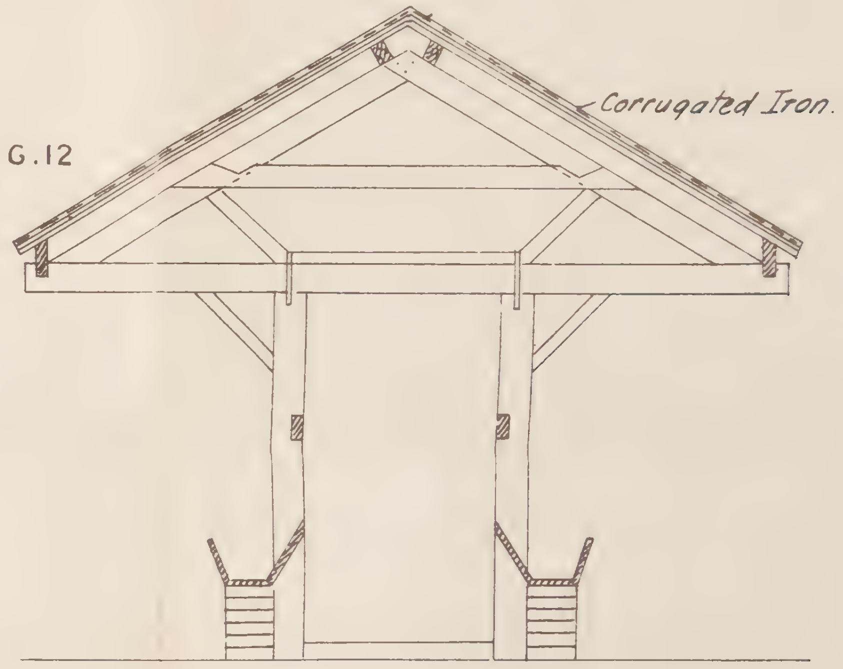

Corrugated Iron.

FIG. 12

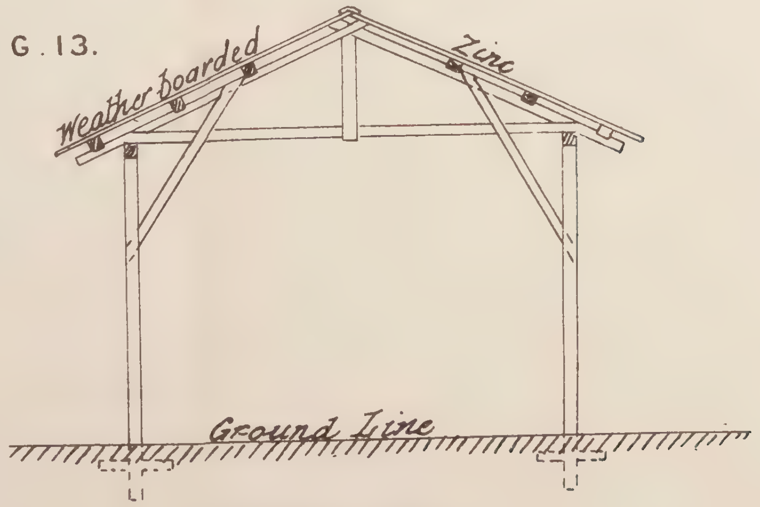

Corrugated Iron.

Scale.

Ins 12 6 0 1 2 3 4 5 6 7 8 9 10 Feet

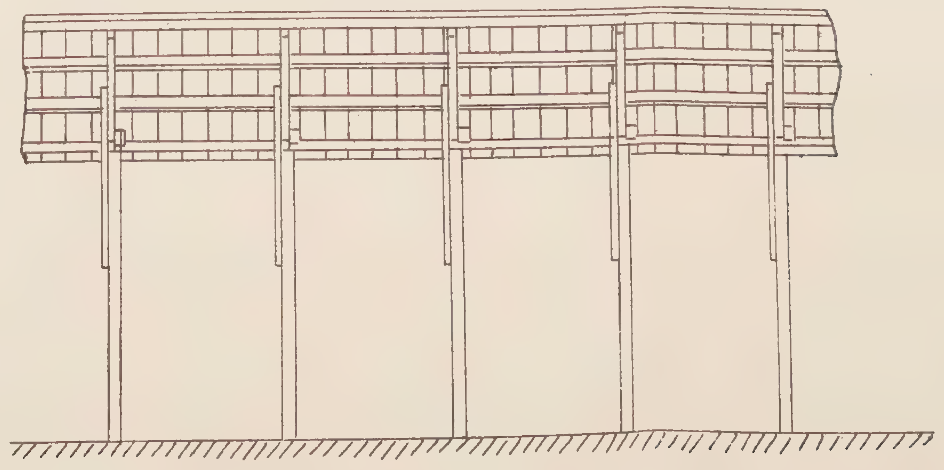
EXAMPLE OF
CONTINUOUS ROOFING.

FIG. 13.


Weather boarded
Zinc
Ground Line

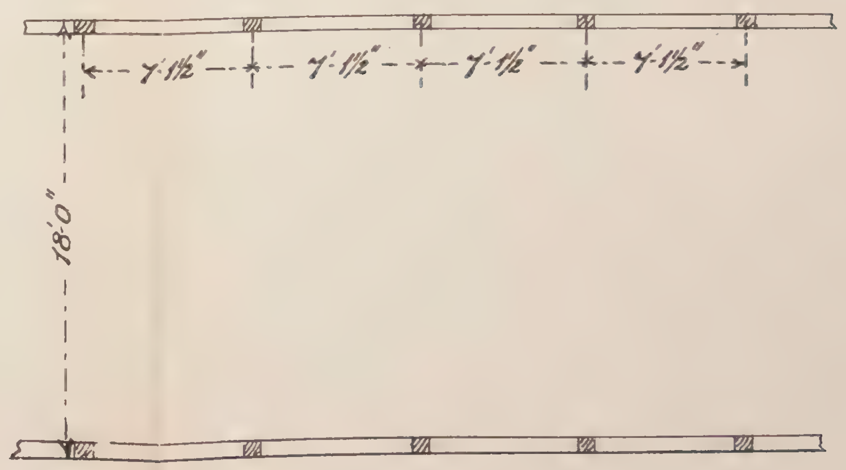
— SECTION OF ROOF —

FIG. 14.



— LONGITUDINAL SECTION —

FIG. 15.


7'·1½"
7'·1½"
7'·1½"
7'·1½"
18'0"

— PLAN —

C.F. KELL & SON, PHOTO-LITHO, 8, FURNIVAL ST HOLBORN, E.C.

CURVED ROOF OF 50 FT SPAN FOR COVERED SHED.

FIG. 16.

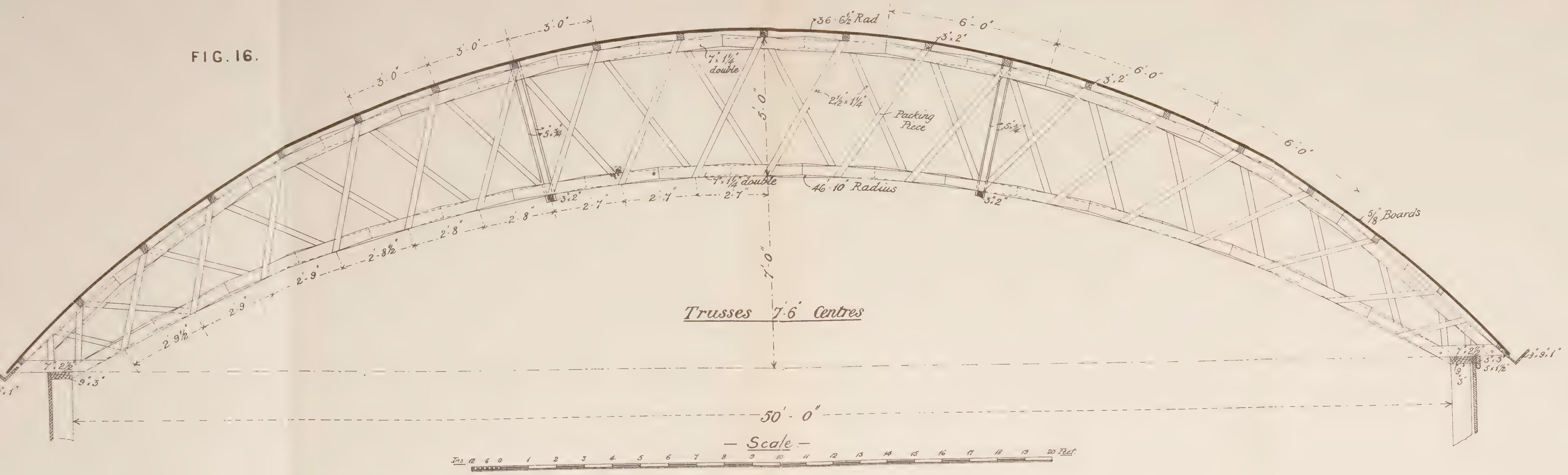

3'.0"
3'.0"
3'.0"
36'.6½" Rad
6'.0"
3'.2"
6'.0"
3'.2"
6'.0"
7"; 1¼" double
5'.0"
2½ × 1¼
Packing Piece
5.3/4
5.3/4
7"; 1¼ double
46'.10" Radius
3'.2"
3'.2"
2'.7"
2'.7"
2'.7"
2'.8"
2'.8"
2'.8½"
2'.9"
2'.9"
2'.9½"
5/8" Boards
7'.0"
Trusses 7'.6" Centres
7'.2½"
9'.3"
50'.0"
— Scale —
Ins 12 6 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Feet

FIG. 17.

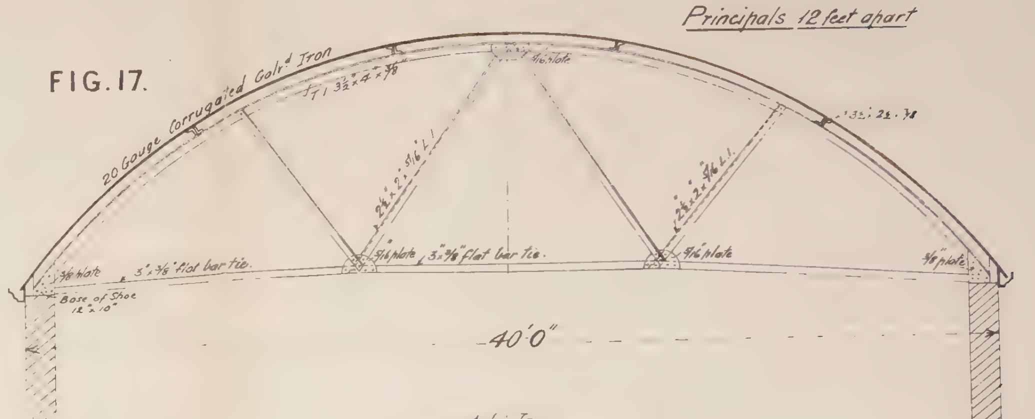
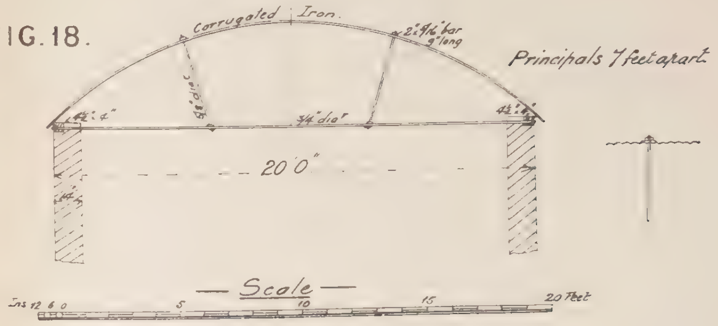

Principals 12 feet apart
20 Gouge Corrugated Galvd Iron
T I 3½" × 4" × 3/8"
5/16 plate
3½; 2½ . 3/8
2¾" × 2" × 5/16 L.I.
2¾" × 2" × 5/16 L.I.
3/8 plate
3" × 3/8" flat bar tie.
5/16 plate
3" × 3/8" flat bar tie.
5/16 plate
3/8" plate
Base of Shoe 12" × 10"
40'0"

FIG. 18.


Corrugated Iron.
2" × 5/16" bar 9" long
Principals 7 feet apart.
4½ : 4"
5/8" dia.
3/4" dia.
4½ : 4"
20'0"
— Scale —
Ins 12 6 0 5 10 15 20 Feet

IRON HAY SHED.

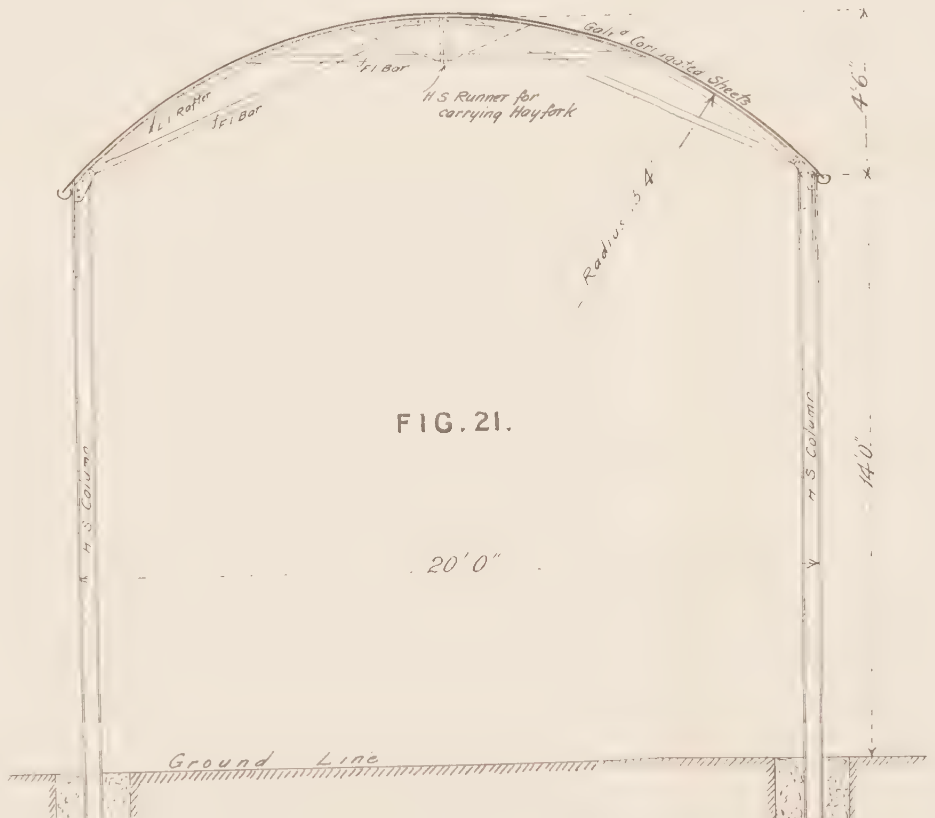
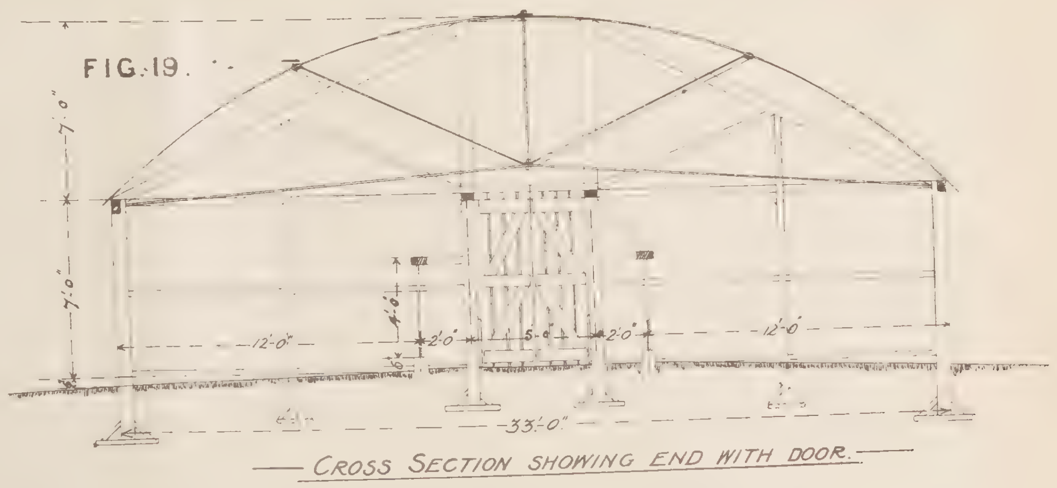

Galv.d Corrugated Sheets
T L I Rafter
T F I Bar
T F I Bar
H S Runner for carrying Hayfork
Radius 13'4"
4'6"
H S Column
H S Column
14'0"
20'0"
Ground Line

FIG. 21.

— CROSS SECTION. —

SHELTER FOR 46 CATTLE.

FIG. 19.

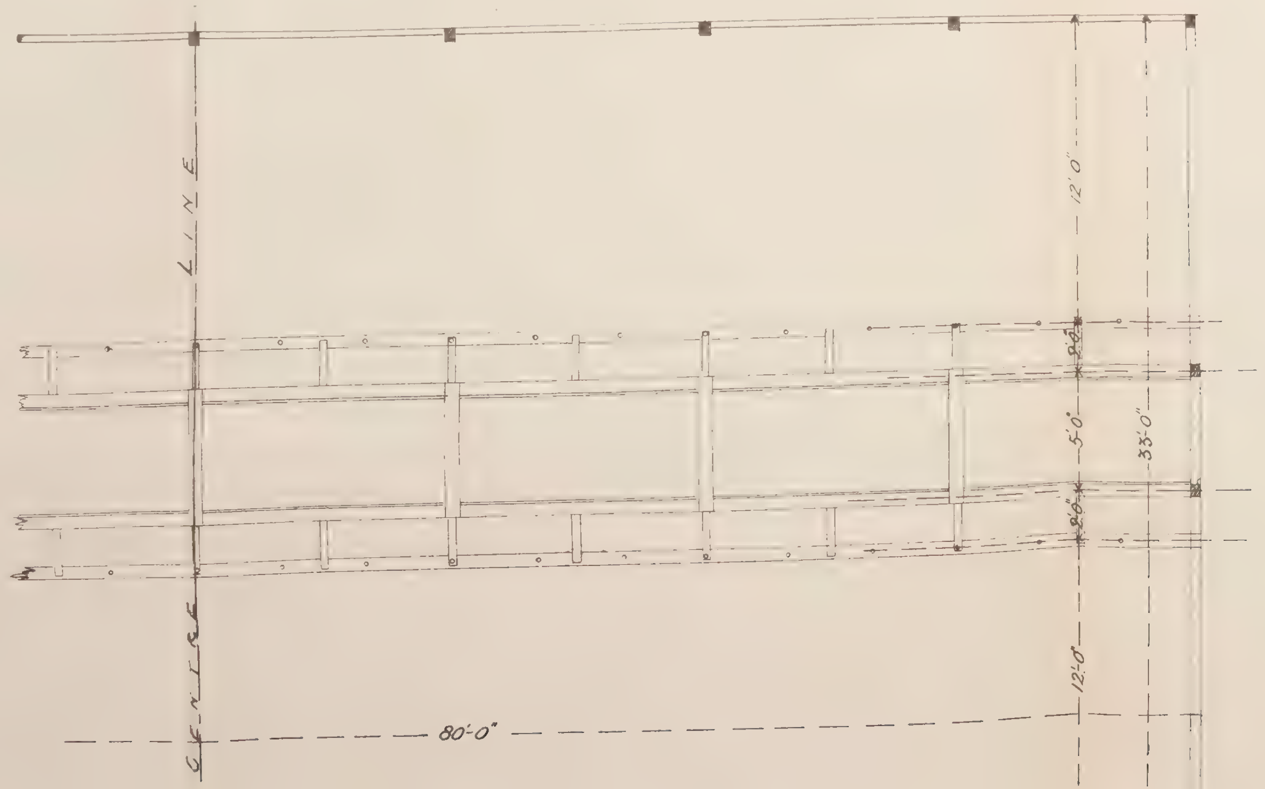

7'0"
7'0"
4'0"
6"
12'-0"
2'0"
5'-6"
2'0"
12'-0"
33'-0"

— CROSS SECTION SHOWING END WITH DOOR. —

SCALE
INCHES 12 6 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 FEET

FIG. 20.

— HALF SIDE ELEVATION SHOWING STALLS. —


CENTRE LINE
12'0"
6'6"
5'0"
6'6"
33'0"
12'0"
80'0"

THOMAS'S PATENT CORRUGATED SHEET FITTINGS.

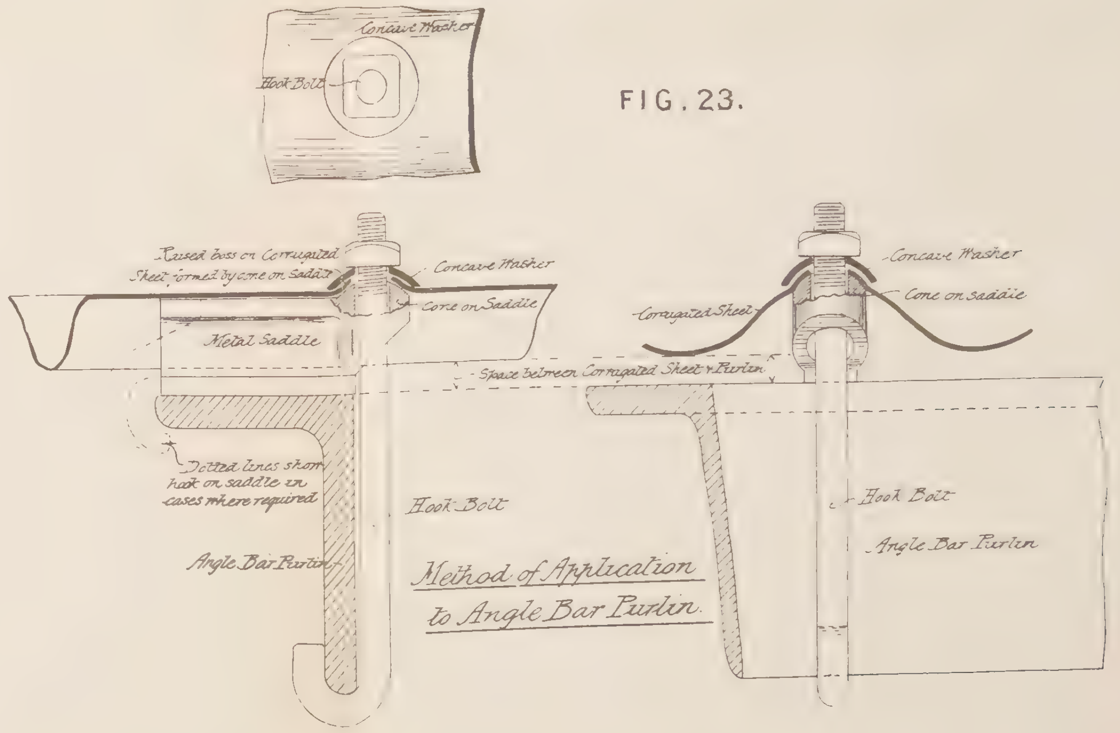

Concave Washer
Hook Bolt
Raised boss on Corrugated Sheet, formed by cone on Saddle
Concave Washer
Cone on Saddle
Metal Saddle
Space between Corrugated Sheet & Purlin
Dotted lines show hook on saddle in cases where required
Hook Bolt
Angle Bar Purlin
Method of Application to Angle Bar Purlin.
Concave Washer
Cone on saddle
Corrugated Sheet
Hook Bolt
Angle Bar Purlin

FIG. 23.

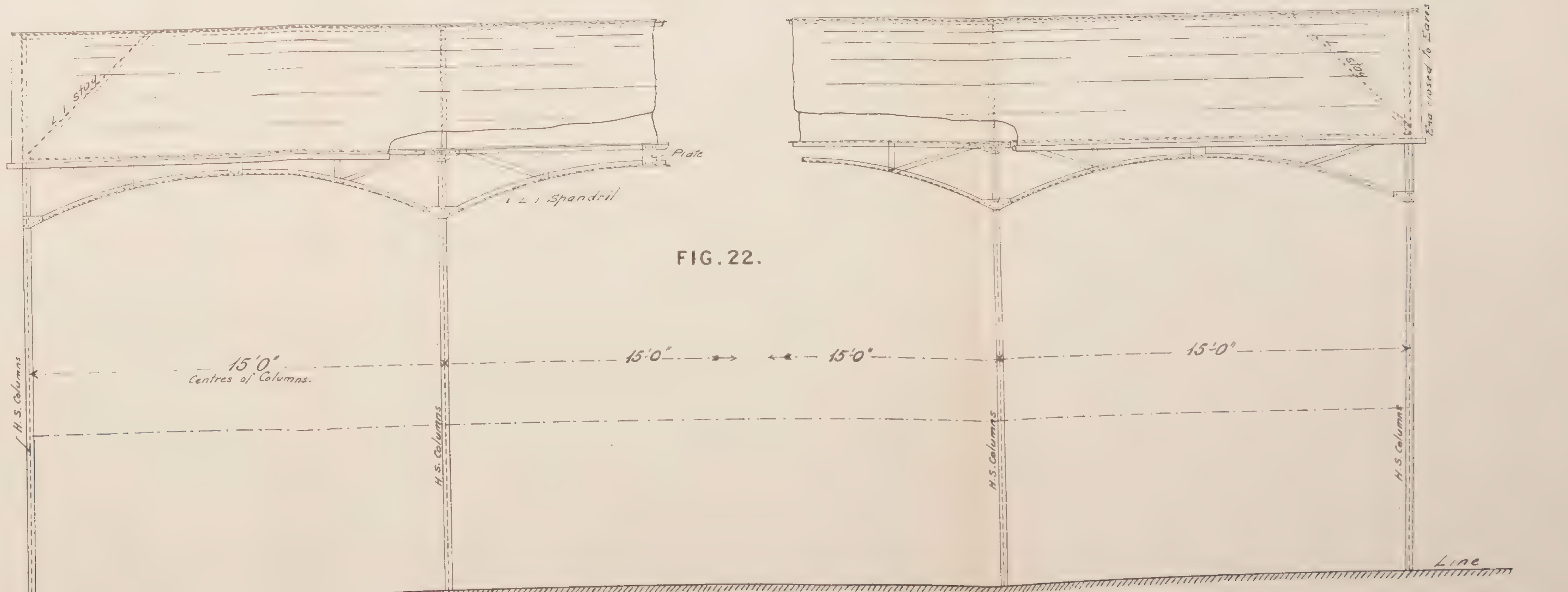

L.L. stay
Plate
T & I Spandril
L.L. stay
End closed to Eaves
15'0" Centres of Columns.
15'0"
15'0"
15'0"
H.S. Columns
H.S. Columns
H.S. Columns
H.S. Columns
Line

FIG. 22.

To illustrate Mr. A. T. Walmisley's Paper on "T

PAPER 260.
No. 418.

THE ROOFING OF FARM BUILDINGS.

BY ARTHUR T. WALMISLEY, M.INST.C.E., FELLOW.

Read at the Ordinary General Meeting of THE SURVEYORS' INSTITUTION, *on Monday, November 26th*, 1900.

JOHN SHAW (President) in the Chair.

The arrangement of improved farm homesteads and their influence upon agricultural prosperity was ably dealt with, in a paper read by Mr. A. Dudley Clarke, F.S.I., at a meeting of The Surveyors' Institution in January, 1883, followed by a useful supplementary Paper contributed by Mr. C. John Mann, F.S.I., both being published in the *Transactions.* In the discussion which followed, the advantages of covered yards was thus summed up. In the first place, they were economical; secondly, stock never did so well as under buildings where they were protected from the elements, provided care was taken to turn the stock out in the spring and summer, to avoid making the stock delicate; and thirdly, that one load of cake-fed manure stored under a covered yard was equal to three or four loads kept in an uncovered yard. All agreed that the approach to covered yards for the protection of stock during "feeding time" and during inclement weather should approximately face the south, so as to obtain a maximum of sun and of air with a minimum of exposure, but that in the case of sheds for machinery and for implements, the open end should be turned towards some shelter. The Chairman stated that many points had been raised by these Papers upon which there existed differences of opinion, and that such points admitted of an extended discussion.

The present Paper does not pretend to arrive at any definite conclusions so far as arrangement of farm buildings is concerned, but to touch upon a few considerations of details of structures. Farming practice differs so much that buildings which would be really needed in one district or upon an individual farm might be entirely out of place in another. Farmyard buildings are indispensable aids to farming practice, but in the midst of the present financial difficulties which embarrass agricultural interests, it is questionable how far the erection of very substantial farm buildings is now justified, as it is impossible to foresee what changes of occupation may take place in the future, which would render them more or less useless. Elaborate and expensive structures do not add, except in a minor degree, to the actual productive capacity of a farm. As regards implements, arable farms of a given acreage require more storage for implements than pastoral farms of the same extent.

The design or shape of any building or structure for farm requirements may assume almost any form, depending not only upon the stability of the structure, but mainly on its situation and requirements, so that very little of a general nature can be said on this point. Many farmers advocate an open yard with sheds round it for storing cattle, as they consider that although there is a small waste in the manure, the cattle thrive better and are more healthy when they are turned out in the open as much as possible. Other more up-to-date farmers insist that the animals kept under cover, free from draught and in a shed amply ventilated, and built over a non-absorbent floor, are fatted quicker and at less cost than those exposed to weather. The manure made is also of greater value, as it is not exposed to the rain, which washes a large proportion of the valuable manurial constituents away. In open yards a suitable covering for a manure pit would consist of a rectangular enclosure surrounded by a wall of 3 or 4 ft. high, except in the centre at one end, as shown in the sketch, Fig. 5, and surmounted by a painted corrugated iron roof, supported on H section stancheons standing 10 ft. high from ground to eaves, so as to leave the upper portions of the ends and sides over this wall open, and provided with all necessary wrought-iron tie-rods, gutters, down-pipes, and fastenings. Exclusive of foundations and brickwork, the price, delivered ready for erection, is about 1*s.* 5*d.* per foot super. of area covered.

The most suitable materials for farm buildings depend upon local circumstances, but too much stress can scarcely be laid upon the proper location of manure pits and also upon the efficient drainage arrangements of all sheds. It is of primary importance to ascertain the various materials most accessible and the best that can be obtained in the district of the proposed structures, whether bricks, stone, cement, slates, tiles, timber, concrete, or iron, having regard also to the distance and convenience of carriage and the selection of the time most agreeable to the tenant, if, as is generally the case, he is to do the transport. Where bricks are reasonable in price and of near carriage, 9-inch brick walls upon proper footings, with piers 14 in. wide under the principals, are well adapted for single-storey buildings. Concrete walls are well done in some parts, care being taken that the gravel or sand mixed with the cement is free from loam or clayey material. In a stone country a good rough rubble wall with drafted stone quoins, if the stone can be easily dressed, or otherwise with brick quoins, may be recommended, or where neither suitable stone nor brick are procurable, concrete may be used, either placed *in situ* in a plastic condition between timber sheeting and subsequently rendered in cement for the sake of appearance upon the removal of the boards, or the concrete may be cast in blocks, and these blocks built up like ashlar. For floors of any outbuilding concrete is more suitable than flagstone, as joints in flags frequently become washed out. Flagstones crack, and the cavities so formed become depositories for filth which no broom can clear.

Weather-boarded buildings well tarred, upon brick bases, carried about 2 ft. above the ground, are inexpensive in some places, and make satisfactory enclosures. The accompanying sketch, Fig. 7, shows an outside covering resting upon four courses of brickwork, viz. a bottom course of 18 in. width, the next course 14 in. wide, both below the ground level, and a double course of 9-in. work above the ground level. In the case of a corrugated iron covering at the sides of the building, a galvanised iron flashing piece is indicated to be fixed around the bottom timber plate, which flashing runs up about 2 in. behind the iron sheets and returns over the top 9-in. brick course. A damp course can also be added by a layer of felt placed between the timber plate and brickwork below the floor level. Air bricks can also be built at suitable intervals in the upper portion of the footings. A cheaper plan is to carry the building upon iron base pillars, properly bedded (as shown in Fig. 6), placed 9 ft. centres, and to omit the brickwork footings. By carrying these pillars up to a height clear of the ground a store can be built with a strong floor, vermin-proof. The price for a shed

25 ft. by 15 ft., suitable for a grain store, 8 ft. to eaves and 12 ft. to apex of roof, constructed on vermin-proof pillars, would be about 2s. 6d. per square foot of area covered.

For corrugated iron work, self-supporting structures are for the sake of economy introduced. Trusses are dispensed with in curved roofs up to 30 ft. span, the sheets alone with light bracing being sufficient. Its form gives it strength, and allows it to be fixed in a minimum time. Up to 20 ft. span a single tie-rod, slung up at the centre, is generally employed, the sheets being curved to the required radius or maintained in position simply by tie and king rods spaced about 10 ft. apart (Fig. 1). In spans of 20 to 24 ft. the single vertical central rod is removed and angle-iron struts with their ends bent round for connection are substituted (Fig. 2). Comparatively heavier gauge sheets are introduced, and wall plates added along the eaves to carry the sheets. In spans of 24 to 30 ft. the vertical central sling rod is added, as shown in Fig. 3, thus forming a kind of half-way design between an ordinary principal roof and the curved self-supporting roof described above. Above this span principals and purlin bars need to be introduced so as to form a complete framework on which to secure the sheets. A strong form of roof, 30ft. span, suitable for an exposed situation, but too expensive for a farm building, is shown in detail upon diagrams on the wall,* while a curved roof of timber trusses for 50 ft. span, such as that in Fig. 16, can be easily erected on the following lines. Rise, 7 ft. Depth of truss at centre, 5 ft. Curved roof boarding, 36 ft. 6½ in. radius. Radius of curve to tie-beam, 46 ft. 10 in. Rafter of tie-beam, composed of battens 7 in. by $1\frac{1}{4}$ in. and 6 ft. long, fixed side by side, but, joints made by two battens occurring in the centre of the adjoining batten. Diagonal bracing, $2\frac{1}{2}$ in. by $1\frac{1}{4}$ in., with packing pieces at intersections. Two vertical struts, spaced equidistant, composed of 5 in. by $\frac{3}{4}$ in. battens. Purlins, 3 in. by 2 in., and 3 ft. apart (centres). Roof boarding, $\frac{5}{8}$ in. thick (to a curve as in Fig. 16). V gutter 9 in. by 9 in. by 1 in. Wall plate, 9 in. by 3 in. Principals at 7 ft. 6 in. centres, supported on wood standards with intermediate bracing.

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* *This Paper was illustrated by two diagrams exhibited at the Meeting, the figures to which particular attention was called being reproduced in Plates I. and II. accompanying this Paper.*

For the sake of comparison, the diagrams also show three timber queen post truss roofs of 27 ft. 9 in., 36 ft., and 26 ft. 3 in. spans respectively, while Figs. 17 and 18 show corrugated iron roofs suitable for 40 and 20 ft. spans respectively, when in exposed situations. The limits of time allowed for this Paper do not now permit me to do more than to present them as examples of actual work, but I shall be happy to reply to any questions that may arise connected therewith during the discussion.

The cheapest shed that can be erected consists of timber framing to both the sides and ends carrying a self-supporting covering. Where timber rafters are introduced, with longitudinal battens fairly close together, from rafter to rafter, the usual bolt connections in the side laps are frequently dispensed with, the corrugated iron as a weather covering being simply nailed to the battens and a ridge capping added. The cost of the necessary timber framing for such roofs, with rafters 5 in. by 3 in. having collar braces and 2 ft. 6 in. apart, with wall plates $4\frac{1}{2}$ in. by $4\frac{1}{2}$ in., the battens being 3 in. by $1\frac{1}{2}$ in., would be about 6*d.* per square foot of area covered.

A comparison between a slated and a zinc roof and a corrugated iron self-supporting roof, each covering an area of 100 ft. by 25 ft., would be as follows: the slate roof costing about 1*s.* 1*d.*, the zinc roof 10½*d.*, and the corrugated iron roof 7¼*d.* per square foot of area covered.

To cover an area of 100 ft. by 25 ft. with a slate roof provided with principals and collars 9 in. by 2½ in. rafters 4½ in. by 2½ in., purlins 9 in. by 3 in., ridge 12 in. by 2 in., and plates 4½ in. by 4½ in., would cost as follows (fixed complete):—

		£	*s.*	*d.*
386 ft. cube fir in plates, rafters, &c.	@ 3*s.*	57	18	0
3,000 sq. ft. best Bangor slating	@ 31*s.* 6*d.*	47	5	0
3,000 sq. ft. rough boarding . .	@ 14*s.*	21	0	0
100 ft. rim slate ridge roll . .	@ 1*s.*	5	0	0
Lead flashing (5 lbs.), 2 c., 3q., 2 lbs.	@ 24*s.*	3	6	6
Iron bolts, &c.		1	5	0
		£135	14	6

or 1·08*s.* per sq. ft.

To cover the same area with a zinc roof provided with principals and collars 7 in. by 2 in., rolls for zinc 3 in. by 1½ in., purlins 6 in. by 2 in., ridge 9 in. by 2 in., and plates 4 in. by 3 in., would cost as follows (fixed complete):—

		£	*s.*	*d.*
230 ft. cube in plates, rafters, &c.	@ 3*s.*	34	10	0
2,700 ft. super. Italian zinc (Braby's) roofing, including ridging and flashing, No. 15 gauge	@ 15*s.*	74	5	0
Iron bolts, &c.		1	5	0
		£110	0	0

or 0·88*s.* per sq. ft.

While to cover the same area with a corrugated iron roof similar to Fig. 3, Plate 1, with No. 22 B. W. G. curved corrugated (galvanised) sheets, closely riveted together, forming an arch, tied by the bracing shown, but without iron rafters and purlins, would cost as follows (fixed complete) :—

	£	*s.*	*d.*
25 ft. by 100 ft. . . @ 60*s.* per sq.	75	0	0
Wall plates, iron bolts, &c., and use of scaffolding	5	0	0
	£80	0	0

or 0·64*s.* per sq. ft.

These prices are, of course, subject to market fluctuations, but serve for purposes of comparison.

Where zinc is employed it is of great importance that the zinc should be pure. If it contain any iron it will not satisfactorily resist the atmospheric influences, and when placed in direct contact with brickwork has, under certain conditions, been found to suffer corrosion. In Berlin a portion of zinc supported on a brick wall in a building was reported, after a certain examination, to have become pitted, and subsequent chemical examination of the bricks showed they contained a percentage of soluble salts which became acted upon by moisture in the atmosphere. Ordinary corrugated zinc cannot be recommended. For roofs of a permanent character either No. 14, No. 15, or No. 16 gauge should be used in the case of zinc, and either 18 B. W. G., 20 B. W. G., or 22 B. W. G. in the case of corrugated iron. The weight of the corrugated iron (22 B. W. G.) in the case of the shed estimated in the above comparison would be about two tons, exclusive of bracing. Good iron, well galvanised, or preferably ungalvanised and painted if near the sea, will last longer than thicker sheets of corrugated iron of inferior quality, and with regard to thin sheets of zinc or of iron it must be remembered that a surface crack allows the commencement of deterioration.

It is an erroneous idea that iron buildings do not last for any length of time. With proper treatment and periodical coats of paint, say every three years, these structures can be preserved for 30 to 40 years. Where exposed to acid or alkaline fumes, such as is occasionally the case in the immediate neighbourhood of covers to fold yards or dung steads, the galvanising may quickly deteriorate, and when once the galvanising is broken through, all the sheets quickly become perforated, whatever the thickness of gauge may be. A covering of copper sheets in such situations is preferable. The best protection for corrugated iron under such circumstances is to coat the sheets with good red lead paint or even a composition of pitch and tar a month or two after they have been erected, and to repeat this coating as may prove necessary—probably every three or five years. The reason for delaying the application of this covering until after the erection is completed is to allow such sheets to become tarnished upon the surface, since they will then allow the paint to adhere more firmly than when it is applied to a fresh metallic surface, and the whole area becomes covered without risk of further openings being made for connections.

When, for the sake of economy, galvanised sheets are used, it must be remembered that while the galvanising process protects the iron from corrosion, it also tends to render it brittle. I remember a corrugated galvanised iron covering which stood over the large area of the Borough Market, Southwark, for thirty years, when it was found to be completely riddled with holes, and taken down as being likely to prove dangerous owing to the vibrations communicated from the railway viaducts which carried the roof framework.

The value of galvanised sheets employed for coverings mainly depends upon the quality of the iron. Although a certain excellence of quality is essential to allow the rolling of comparatively thin sheets which shall be able to endure the corrugation required without risk of damage, yet it will be found upon examination that large quantities of inferior sheets are sold in the market which have minute cracks or a blistered surface. Sheets of this character will not hold the spelter properly, or if ungalvanised and painted, the smallest flaw in the continuity of covering gives an entrance for the weather, with a serious result. Rust from the exposed spot spreads laterally under the covering, and when the rust separates from the iron the paint comes off with it. Charcoal sheets for galvanising are not an ordinary article of commerce. The sheets sold by manufacturers at extra prices for galvanising and other purposes under the name of "charcoal sheets" are generally made of steel.

Figures 21 and 22 illustrate a hay shed with a corrugated iron roof 20 ft. wide constructed in 15 ft. bays. The shed is 14 ft. high at the eaves, and the curved roof has a rise of 4 ft. 6 in. The intermediate framing of the roof, as shown in the transverse section (Fig. 21), is formed of angle-iron rafters with flat iron tie-bars. They are partly riveted together at the maker's yard and are provided with a necessary shoe and splicing plates. The roof is carried on H steel columns, spaced 15 ft. centres, and special attention needs to be paid to the connections between the column heads and the roof framing. This form of stancheon is the best to adopt where the columns are liable to be knocked against by carts or the like. Where possible, they should be let in from 1 to 2 ft. into solid concrete blocks bedded in the ground, and spur stones added. In the case under review the columns have angle bases riveted on to their feet, for anchorage into the concrete foundation. In each bay, between the heads of columns, there is a light lattice girder formed of angle-iron eaves bar, and spandril with flat iron bracings all riveted together, including the necessary splicing plates on the columns. The end frames are formed of angle-iron rafters, tie-bar, and uprights, with the necessary shoe and splicing plates, and have a stay of angle-iron from the tie-bar to the crown of the roof, as shown in the side elevation (Fig. 22). The roof in this case is covered with Braby's No. 22 W. G. best "Empress" brand, galvanised corrugated sheets, laid with 6 in. end laps and one corrugation side lap, fixed to the eaves bar with clips, and to the crown bar with hook bolts, and bolted to each other by means of sheet bolts all provided with galvanised material and lead washers. Angle-iron crown purlins extend from end to end of the roof, secured to the crown of the gables by means of splicing plates. Galvanised half-round wrought-iron eaves gutter is fixed along each side with gutter hooks spaced every 3 ft. Galvanised wrought-iron down-pipes secured to the stancheons by galvanised iron clips are added, but it will be noticed that their ends are left free to avoid connections to the underground drains. The ends of the shed can be clad with vertical corrugated sheets similar to the roof. Gutters and down-pipes should always be of ample size to facilitate clearance, and the top of a down-pipe should be provided with guards to prevent choking by leaves and dirt. When not galvanised, they are usually formed in cast iron, since this material, as a rule, will better resist corrosion from the greater body of thickness in a casting compared with thin wrought iron or steel gutters and down-pipes. An open shed as described above could be erected for about 1*s.* 5*d.* per square foot of ground covered. If side sheeting be necessary, the price to include covering the sides down to a depth of 4 ft. below the eaves with its necessary frame-work would be an addition of about 2*s.* 3½*d.* per foot run of covering.

With hay and corn sheds, head room is a consideration; hence the adoption of trusses with a raised tie-beam. But in many cases they are braced as in Fig. 4 and covered with corrugated iron, carried at the eaves on a wall plate which may be of timber or of iron. For hay-sheds it is always advisable to have the framework entirely of iron or steel, as in case of fire the damage done will not be so considerable as if part of the framing were of timber. As regards the facilities of erection, a light pole, a ladder, and a few planks, with a rope and tackle, are about all that it is needful for a purchaser to provide. The couples and lattice girders being riveted together prior to delivery, the chief labour in the erection lies in fixing the covering, for which it is important to employ an experienced sheeter, but the handy labourers usually employed about farmhouses could easily erect the remainder of the structure complete.

Such sheds are extremely useful for other purposes than storing hay, in parts of the country where there is any difficulty in obtaining brick or stone for building purposes. For instance, a shed, such as that shown in Figs. 21 and 22, could be used as cattle shelters and feeding sheds by placing troughs along one side and putting the necessary railings between the columns, with gates to allow of ingress and egress. They could also be used as cart or implement sheds when lighted by side windows. The hay sheds are sometimes fitted up with a carrier to take an American hay fork, as indicated on the diagram (Fig. 21), the ends of the shed being suitably framed to allow of a bundle of hay and the fork passing through without any obstruction. The carrier is formed of steel of H section, and is hung from the top by brackets, and stayed between each of the couples by means of flat iron sway-bars, the hay fork running on the bottom flanges of the H steel carrier. The price of a carrier delivered and erected adds 3*s.* per foot run to the cost of the shed.

A simple arrangement for a coach house and stable, 40 ft. by 13 ft., costing £95 fixed, or 3*s.* 8*d.* per square foot of ground space, is illustrated upon the diagrams, and Figs. 19 and 20 show a shelter for 46 cattle, covering a space 80 ft. by 33 ft.; a particularly cheap class of building erected upon timber uprights, without rafters or purlins, costing £190 fixed, or about 1*s.* 5*d.* per square foot.

The corrugated iron sheet fittings designed by Mr. C. Thomas, consisting of saddles with concave washers to fit the corrugations as shown in Fig. 23, can be applied to angle-iron purlins or to joists, or to tee-shaped bars as required, and are supplied to order by The Metal Agencies Company, Limited, Queen Square, Bristol. Their use is calculated to overcome the leakage around the hook bolts sometimes introduced in the connections, and to reduce to a minimum the dropping of condensation, by the saddle raising the corrugated sheet to the extent of about a quarter of an inch off the purlin, and so preventing the interception of the condensation by the purlin as in the old method. It will be observed that the metal saddle employed has a raised boss around the hole through which the hook bolt passes, and when the outside nut of the hook bolt is screwed down, the burr of the punched hole in the sheet is pressed into a concave washer, and the corrugated iron sheet becomes embossed around the hook bolt without distorting the sheets to an extent likely to lead to leakage.

The improved connection introduced by the saddle shown in Fig. 23 also contributes to the action of a lock nut, thus reducing the liability of the nut of the hook bolt to work loose through vibration; and the condensation, instead of dropping under each purlin from one end of the building to the other, is conducted uninterruptedly to the eaves, rendering the centre of the floor dry.

Where possible, all lighting to a shed should be obtained from the sides or ends of a building enclosed at the sides and ends, because roof lights, besides being somewhat costly, are apt to leak during wet and stormy weather.

Ventilation may generally be arranged mainly under the level of the eaves, only a limited amount (if any) being required in the roof itself. Nothing can be worse for a stock yard than a draught, especially a cross draught induced by too large openings in the ends and at the sides of a building. Ventilation is needed above and not across a yard. The usual louvre ventilators seen in the roofs of railway stations admit snow in winter. By raising the covering at its junction over an intermediate purlin in wide sheds, and adding a pile plate or ridge piece above an upper purlin, effective ventilation may be evenly distributed along the whole length of the roof in lieu of the ordinary louvre board arrangement. The accompanying illustration, Fig. 8, shows a system which can be recommended in truss roofs. A ventilating ridge is provided by the introduction of 4 in. by 2 in. woodwork, perforated and running the whole length of the ridge both sides; but there are very few roofs of farm buildings that provide a double roof to admit of this means of ventilation, and with self-supporting roofs it would be only practical and safe to provide a number of small ventilators at prescribed intervals along the ridge. Of course, with ridged framed roofs any amount of ridge ventilation can be given, either continuously or by means of small independent ventilators at intervals. The double-horned ventilators shown in the sketch (Fig. 9) are absolutely weather-proof, and can be readily attached to either curved or ridged roofs. The prices are 40*s.* with 18-in. shaft, and 25*s.* with 12-in. shaft.

Continual progress is being made in the application of iron and steel to building purposes, and the demand for structures of these materials increases. This is not surprising when we consider the advantage which iron and steel possess, in allowing a building to be sent to the place of erection complete and ready for fixing, in the small extent of ground surface taken up by walls and partitions, in their imperviability to moisture, and the practicability of rendering a building fire-resisting, though not fireproof, and also in the ease with which a complete and thorough ventilation of a building can be arranged, and in the facility of removal and comparatively small cost of reconstruction in any other part of the farm.

Strong winds or gales should be specially taken into account in all buildings standing exposed to their action, and extra precautions adopted to prevent the force of such gales getting under the roof, since the majority of accidents to light self-supporting roofs are due to the lifting tendency of wind having free play underneath them, without being able to escape. In designing roofs it is sufficient for ordinary purposes to assume that there may be a lateral wind pressure of 28 lbs. per square foot and a weight of snow equal to 5 lbs. per square foot. These, added to the weight of the structure, give the total load to be sustained, and the working strain upon the material employed under such circumstances should be about one-fourth, and should never exceed one-third of the calculated breaking strain. Wrought iron of from 20 to 22 tons per square inch ultimate breaking strain is a fair assumption. To specify a higher unit breaking strain is to invite a manufacturer to deliver mild steel.

Rectangular buildings may be covered with roofs having gabled ends, or the ends may be hipped. The hipped portion is, however, more expensive than the ordinary parts of a roof, the framework requiring more labour, and the covering is greatly cut to waste. As an approximate rule, one-third should be added to the general price per square of 100 superficial feet for that portion of the area which is covered by the hip. Against this extra, however, we have to consider the saving effected in the material that would be needed if gables were used. By simplicity of construction expense may be saved. Smith's work should be reduced to a minimum, and welding both at the joints and other parts avoided as much as possible. So far as the site will permit, a roof should be arranged to contain a repetition of parts, as upon the extent to which this is effected the cost so much depends. A building divided into equal spaces, and in which the principals occur at regular intervals, is the cheapest that can be adopted.

It is evident that expense may be saved by preserving as far as possible all existing buildings and making use of the existing walls, also by roofing in considerable areas in a block so as to subdivide the interior by light and inexpensive partitions with a view to facilitate subsequent alterations and save the cost of numerous outside walls. The use of expanded metal in concrete may be advantageously introduced in wide spans of roofing or partition. The continuity of buildings affords opportunities for an advantageous disposition of material in unbraced structures, as it admits of introducing the nave and transept principle by placing the direction of one portion of the covering at right angles to the remainder.

While the limited amount of framework needed for corrugated iron recommends it for rapidity of erection at moderate cost, it is sometimes objected to as a covering because it does not moderate the extremes of heat and cold, and the interior of such buildings is consequently easily affected by changes of temperature. A double roof is undoubtedly the best means of retaining warmth and of excluding external heat, but in ordinary sheds an inner lining of boarding, leaving an air space of about 9 in., would be too expensive, so the difficulty has been surmounted by running some light wires parallel with the purlins of a roof, and about 12 in. apart, upon which a thin layer of straw is laid. The comfort of a thatched roof is to some extent attained in this way.

Thatching possesses some advantages over other methods. It is light, impervious to moisture, and of good weathering quality when skilfully laid. Wheat straw is the best to employ, being a good non-conductor and more durable than oat straw. For coverings in isolated positions it is very suitable, but it needs to be particularly secured at the eaves to avoid lifting under the influence of high winds. In some farms galvanised rick covers are used, fastened by strand wire looped both ends in an approved manner, and are advantageous.

Tile roofs are seldom watertight. Pan tiles are common and cheap. Plain tiles are expensive. They are smaller than pantiles, but requiring more lap they are heavier per square. They can be laid to any slope from 25 degrees to 60 degrees. Slates need an angle of about 2 to 1 or $25\frac{1}{2}$ degrees to 30 degrees, but zinc, lead, and corrugated iron can be laid at a slope of 4 degrees. Pantiles are mostly used for barns and sheds. They need strong roof timbers. Their size is about $13\frac{1}{2}$ in. by $9\frac{1}{2}$ in. by $\frac{1}{2}$ in., weighing $5\frac{1}{4}$ lbs. each. Plain tiles are $10\frac{1}{2}$ in. by $6\frac{1}{2}$ in. by $\frac{1}{2}$ in., weighing $2\frac{1}{2}$ lbs. each, and 11 in. by 7 in. by $\frac{5}{8}$ in., weighing about 3 lbs. each. A square of roofing requires 800 plain tiles laid to a 3-in. gauge, 700 tiles to a $3\frac{1}{2}$-in. gauge, and 600 to a 4-in gauge. They need to be fastened with a galvanised iron nail for security to fir laths attached to rafters, no boarding being necessary. Pantiles hold the moisture a long time and are inferior to plain tiles.

The diagrams exhibited also show the elevation and plan of a substantial shed constructed in timber as a lean-to against an existing building, and illustrate a substantial fence, 10 ft. high, suitable for a coal yard or open enclosure.

Roofs covered with felt should have a slope of at least 1 in 5, indeed 1 in 2 would not be too much, Croggon's asphalte roofing felt is specially coated with an admixture of bitumen, and is considered impervious to rain, snow, or frost. It is sold at 1*d.* per square foot, subject to discount.

Willesden paper has frequently been employed for roofing purposes. The 4-ply at 9*d.* per yard run, 19 in.

wide (sold also at 2*s.* 6*d.* per yard run, 60 in. wide), can be laid directly on rafters or partition studding without boards. In the case of roofs for exterior service it is held in position by outside battens 2¼ in. by 1 in. firmly nailed through the overlapping roofing. To suit the width of the paper, rafters 19 in. from centre to centre are required. At the eaves it is usually turned round a feather-edged board for security. It is found to be durable, but for permanent work should be painted every three years. In exposed situations it needs protection from wilful destruction, as it is easily damaged by mischievous boys throwing stones. When properly fixed at the outset, with ample overlap at the ends, Willesden paper proves itself capable of resisting gales and of withstanding the weather, but its sagging in wet weather is unsightly and inconvenient. It answers very well as a covering to keep dry, but is too free a conductor of heat and cold for covering cattle sheds. It, however, makes a first-class underslating.

As an example of a covering for the feeding of cattle in yards, the accompanying illustrations may, in conclusion, be mentioned to show a central feeding passage directly communicating with the food store, where the roof allows space for a manger and shelter for the cattle on each side. The posts are about 9 ft. apart and support the rails over the mangers, which form the fence to keep the animals out of the passage. There are no rafters beyond the principals, but it is evident that with a light tie-beam the form of principal shown in Fig. 11 is preferable to that in which the supporting verticals tend by their position, as in Fig. 10, to create a transverse strain in the tie-beam. As shown in Fig. 10, the weight mainly comes at the ends of the tie-beam, but if a straining beam with side struts were inserted, as shown in Fig. 12, these struts would communicate a large portion of this weight direct to the top of the vertical posts. In this case the collar-beam would remain the same for Fig. 12 as for Fig. 10

A substantial form of continuous timber roofing is illustrated in Figs. 13 to 15, consisting of timber verticals 7 ft. 1½ in. apart longitudinally and 18 ft. span, weather-boarded and covered with zinc, corrugated iron, felt, or other covering. Although windows, doors, and side-boarding are not shown in the figures, they can be fixed as required, and the whole forms a class of covering, suitable for a sheltered position and easily erected.

TABLE A.

Proportions of rise to span.	Angle.	Slope.
$\frac{1}{6}$	18° 25′	3 to 1
$\frac{1}{4}$	26° 35′	2 to 1
$\frac{1}{3}$	33° 42′	1½ to 1
$\frac{1}{2}$	45° 00′	1 to 1
$\frac{2}{3}$	53° 00′	¾ to 1
$\frac{3}{4}$	56° 20′	⅔ to 1
1	63° 30′	½ to 1

TABLE B.

LOADS ON ROOFS EXCLUSIVE OF FRAMING, SNOW, AND WIND.

Description of Covering.	Weight in cwts. per square of 100 superficial feet measured on plan.	Minimum Slope.
Slates	7½ to 9	25½° to 30°
¾″ Boarding	2½	25°
1½″ Boarding	5	”
Timber Framing for slated roofs	5 to 6	”

TABLE C.

WEIGHT AND SIZES OF ROOF SLATES.

Name of Slates.	Size in Inches.	Weight in cwts. per square of 100 superficial feet. First quality (Welsh).
Viscountess	18 × 10	6
Countesses	20 × 10	$5\frac{2}{3}$
Marchioness	22 × 12	6
Duchesses	24 × 12	6
Princesses	24 × 14	$5\frac{1}{2}$
Empresses	26 × 6	$6\frac{1}{3}$

A diagram exhibited by the author, but not here reproduced, comprised designs for—

(1) Roof for 15 to 20 feet spans, with central sling rod $\frac{1}{2}$ inch diameter to cambered tie-rods $\frac{3}{4}$ inch diameter. Details given at ridge and springing and centre connection of tie-rods. Timber wall plates. Washer plates under bolts to give a square bearing over corrugated iron to the nuts holding king rod.

(2) Roof for 20 feet spans, with central sling to cambered tie rods. Details given of springing and at ridge. Timber wall plates. Detail of cap piece to distribute the pull of the king rod over 3 flutes.

(3) Roof for spans of 20 to 24 feet, with V shaped strutting attached to centre of cambered tie, with details of connections to springing and to corrugated iron.

(4) Spans 24 to 30 feet with the addition of central sling rod to Fig. 3 and details of connections to springing and to corrugated iron.

(5) Spans 30 feet; cross ties slung up in centre, with detail of connections at springing and purlins.

(6) Span 35 feet. Curved tie attached to radial struts. Detail at springing and ∟ purlins.

(7) Span 40 feet. Braced truss to timber wall plates. Details of connection of purlins and tie rods.

(8) 40 feet span, with curved rafter and ∟ wall plates attached to C.I. base plates bolted to steel joists as stancheons. Detail showing method of attaching to timber wall plate in lieu of steel joists if required.

Details of connection of ridge and struts.

(9) Hills' and Smiths' patent roof fastening to angle-iron purlins.
(10) Details of foundations to farm buildings.
(11) Details of roof ventilation.
(12) The Windle patent clip. Details.
(13) Part section and end elevation. } of cattle sheds.
Side elevation.
Plan.
60 feet span over all and 60 feet long, fitted with oscillating shutters, by which means a trough can be shut off from the cattle when required and while food is being put into the trough.
Section of roof similar to Fig. 4, with the addition of 2 vertical angle ties.
Rolled joists as supports to roofs, bedded in concrete blocks.
Height of roof above ground 15 feet 9 inches.

Mr. A. DUDLEY CLARKE (Fellow) said he had much pleasure in proposing a hearty vote of thanks to Mr. Walmisley for a Paper which would form a most valuable addition to the literature which The Institution already possessed on the subject.

In the Paper, the author, in terms which he (the speaker) could fully endorse, said, "Farmyard buildings "are indispensable aids to farming practice, but in the "midst of the present financial difficulties which em-"barrass agricultural interests, it is questionable how far "the erection of very substantial farm buildings is now "justified, as it is impossible to foresee what changes of "occupation may take place in the future, which would "render them more or less useless."

He apprehended that Mr. Walmisley had taken that as a kind of text on which to base his Paper, seeing that he had devoted the greater part of it to the explanation of his views on the cheaper forms of roofing suitable for farm buildings.

In the present state of agriculture really serviceable farm buildings were obviously required; but the difficulty which presented itself was the question of their cost. In his own practice, when he found a set of farm buildings which required to be improved, he first carefully ascertained what kind of buildings existed, and to what purpose they were applied. One often found a substantially erected tiled open shed merely doing duty as a shelter for cattle, or one might perhaps find a substantial barn covered with slates or tiles which merely contained, for a few months in the year, corn before it was threshed.

His own idea was that whenever one found buildings of that kind, an effort should be made to adapt them to more serviceable purposes; for instance, it was very often practicable to convert a substantial open shed into a serviceable cow-house, or a house for fattening cattle. Certainly the shed would have to be replaced, but this could be done by putting up a less costly building with a roof of corrugated iron, or even a felt roof, though he did not much approve of felt, for he had found it often a very troublesome and unsatisfactory material. In some districts a wooden roof was often used, composed of creosoted boards laid from ridge to eaves, and he was rather surprised that the author had omitted all reference to that form of roof. It was very popular, he believed, in Yorkshire and some parts of the east of England remote from the iron manufacturing districts. Near the sea coast he thought those roofs had been found to be rather more satisfactory than iron.

So far he was in agreement with the author of the Paper, but he could not quite go with him with regard to his first example, the roof over a manure pit. He did not know what manure pits were wanted for at all in an

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open yard. If cattle were turned out in an open yard they required to have the run of the yard, and he saw no use in collecting the manure in order to put it into a pit under cover. If it were not desirable to cover the whole yard he would suggest an increase of the shed accommodation for the cattle to run under in bad weather and to more amply protect the manure.

Then came the question of the cost of these roofs. Now the cost of the roof over a manure pit—an ordinary corrugated iron roof supported on iron pillars—came to 1*s.* 5*d.* per foot super., or 12*s.* 9*d.* per yard super., which he considered excessive for accommodation of that kind, either for manure or cattle, and he thought that he could show by reference to some roofs which he had erected, that a very good roof indeed could be supplied at a very much less cost.

Figs. 1, 2, 3, and 4 represented various designs for corrugated iron roofing constructed with iron tie-rods on a well-known principle, but in his own practice he found that it was more economical, and that better results were gained, by using timber ties instead of iron. These tie-rods were apt to sink in the middle, although supporte dby a king rod and, in wide spans, by two queen rods. Farmers were in the habit of hanging upon them all sorts of things, from sheep skins or carcases to ladders, and where this was done the roof must more or less suffer.

He also found it very advantageous when such roofs were erected by a country carpenter, to run timbers along the centre of the roof or at each side, according to the span of the roof, as a kind of purlin. It added a certain amount of rigidity to the whole structure, and made it much easier for a country workman to erect a true roof.

Coming to the coverings for wide spans, the author gave an illustration of one for a span of 50 feet. It was no doubt constructed in a very ingenious manner, and reflected great credit on the designer, but, so far as he could understand, the roof, which had a span of 50 feet and a rise of 7 feet, was intended to be covered with boards. If that were the author's intention, it entirely surpassed his understanding how boards fixed to such a roof could be made weather-tight with so very little fall to run off the water; if the boards were lapped there would, in some parts, be scarcely any fall at all.

Reference was made to the cheapest construction of shed, which worked out at 6*d.* per square foot, or in other words at 4*s.* 6*d.* a yard, of ground covered; and the author said, "Where timber rafters are introduced, "with longitudinal battens, fairly close together from "rafter to rafter, the usual bolt connections in the side "laps are frequently dispensed with."

He, the speaker, could not see, in using corrugated iron, what rafters were wanted for, other than principal rafters, placed at 10 feet or 12 feet apart where the ties went across, and some light purlins about 4½ inches by 3 inches, placed 4 feet apart, up the sides of the roof. He thought that would be equally effective, and would be rather more economical. It was certainly a cheap form of roof, but he believed it did not include the posts, which of course were necessary for its support.

In connection with that point he hoped he might be allowed to refer to the particulars which he had given of a cheap form of roof in a Paper in the last edition of his book on "Farm Buildings," which worked out with the posts at 4*s.* 8*d.* per yard, as against the 4*s.* 6*d.* of Mr. Walmisley's roof.*

He believed, as a matter of fact, that if flat sheets of iron were used with galvanised iron ridges it would be slightly cheaper, in the first instance, than any curved roof that could be erected. It was not, perhaps, quite so sightly, and he questioned whether it was quite so durable. With slate roofs all were very well acquainted, but he must say he had not had much experience of zinc roofs for farm building purposes. He only remembered one which was put up by a friend of his because he wanted a very light roof for a dutch barn which he wished to be movable. He raised the posts to a very considerable height, for it was his fancy to have an elevator, and to build a tremendously high stack of hay. When that hay was being cut into and trussed, of course it was very necessary that the very high roof should be lowered. He found that a zinc roof would be much lighter, and consequently much easier to travel up and down.

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* These particulars will appear in the next number of the *Professional Notes*, Vol. x. Part iv.

With regard to the price of corrugated iron, the roof illustrated in Fig. 3 was quoted at 8*d.* per foot, or 6*s.* a yard, but there were no posts. He should think that that was probably a fair estimate of what roofs of that kind ought to cost; but the roof referred to later on for an open shed cost 1*s.* 5*d.* per square foot of ground covered, or 12*s.* 9*d.* per yard, and he could not see what difference there was between the two roofs to cause one to be double the price of the other. In both cases it was a simple iron roof on posts, and would be suitable for hay, corn, cattle, or machinery. He could not see why one should cost about 6*s.* a yard of ground covered and the other 12*s.* 9*d.* Perhaps the author would be good enough to explain this.

Mention was made of the painting of corrugated iron, and the desirability of letting the roof remain for a time unpainted on account of the paint getting a better hold of the iron. That suggestion he fully endorsed. His practice had been, before painting an iron roof, to let one winter pass, which brought about certain chemical changes in the surface of the iron, causing the paint to adhere and to penetrate to a certain extent, and thereby making much more serviceable work. He thought that was a thing which they should all bear in mind, because many people objected to the colour of galvanised iron, which was certainly ugly and cold in appearance, but when painted with a nice brown or chocolate oxidised paint (a little of which went a great way, for the iron could not absorb much) he thought all objection to its appearance was entirely removed; in fact, he thought a well-arranged set of open yards with such shedding, or a well-arranged set of dutch barn roofs, nicely painted, looked certainly very much better than the large old open yards, which he should like to see improved. The use of iron as far as possible was recommended, as affording more protection in the case of fire. It was said that it would not be so much damaged as wood, but he saw the other day the ruins of a fire which took place in a building covered with corrugated iron, and the corrugated iron certainly was twisted and knocked about to such an extent as to be almost useless.

The subject of ventilation, of course, was an important and very often a rather troublesome one. He thought the horned ventilators at Fig. 9 very serviceable and good, but for farm building purposes, 40*s.* with 18-in. shaft and 25*s.* with 12-in. shaft would be rather too expensive for general use. He much preferred the arrangement of wood at Fig. 8, perforated at intervals, placed under the ridge, which he thought would be very serviceable, and certainly not so costly.

There was no doubt considerable advantage attached to the use of iron. It was cheap, was easily erected, and very easily taken down and put up elsewhere without much damage, and he thought it was also less liable to damage by storms. One might put up an excellent tile roof, and pantiles or even slates might be all right to-day, and to-morrow one might go round and find a certain number of the tiles or slates blown off, necessitating the employment of two or three men to repair them. That was altogether avoided by the use of corrugated iron. With regard to its lasting qualities, he had put up a good many iron buildings, the earliest having been erected more years ago than he cared to mention, but he had not seen the end of one yet.

With regard to thatch, he did not think the recommendation of wheat straw as being the best was quite correct. He believed that if one wanted an extra-lasting piece of thatch on a good house or a cottage, rye straw was preferable. It was much more durable than wheat straw, and much superior to oat straw.

In his book on Farm Buildings he had gone into the details of the construction of a corrugated iron roof of a certain span—he thought about 24 feet—and a wooden roof of the same width, and he found that they both worked out, as nearly as possible, at the same price per superficial yard of ground covered.

This was the description which he had given of the wooden roofs in the Paper he referred to: "The particular " feature, however, for this class of roof is the covering " with 1-inch creosoted deal boards, nailed from eaves to " ridge, ¼ inch apart, to the purlins, but kept from actual " contact with these by means of the heads of galvanised " nails nailed into them. This ensures a space between " the purlins and the boards, where air will circulate and

" prevent the accumulation of moisture, and each board " has two slight grooves about half an inch from the edge, " which form channels for intercepting driven rain (which " would otherwise find its way to the apertures between " the boards) and for conducting the water to the eaves. " The gutters are formed of inch boards pitched on the " insides." That extract was from pp. 128 and 129 of his book on Farm Buildings. He had seen one or two of those buildings erected, and found they answered admirably for open stock-yards. Certainly they admitted very little rain, and the ventilation, of course, was very ample, but in all the boards a little allowance should be made for shrinkage. Of course where a roof was required to be absolutely impervious to rain, such as a good dutch barn, a wooden roof would not be very suitable.

He hoped the author would not think that he had been too severe in some of his remarks; but he ventured to say that he was a little unmindful in some of the matters he had dealt with of the difficulties with which farmers had now to contend.

Mr. T. A. DICKSON (Fellow) expressed his pleasure in seconding the vote of thanks to Mr. Walmisley for his very able Paper.

Reference has been made by Mr. Dudley Clarke to a sentence in the early part of the Paper, in which it was said to be questionable how far the erection of really substantial farm buildings was now justified, in view of the rather gloomy prospects of agriculture. Recognising the possibility of having, at no very distant date, to convert some of the large farms into small ones, landowners who had large farms at present to deal with were in a difficult position as regards farm buildings. In the case of Trust Estates, for instance, they could not erect substantial farm buildings as cheaply as they would like and in order to satisfy the persons interested they put up more or less temporary buildings rather than spend capital money on permanent improvements.

Weather-boarded buildings had been referred to, and it was said that they should be well tarred. He had had occasion to put up many buildings of this description, and he found that carbolineum was more satisfactory than tar, and that the boards treated with it lasted better.

He was sorry he had not had time to go thoroughly into the figures embodied in the tables supplied, but he had recently had experience of three new buildings which had been lately erected, all of small capacity. One was built with brick walls and slate roof, and the other two with weather-boarding and slate roof. He found that the cost of the brick-walled building came to 4*s.* 2*d.* per square yard, and the weather boards to only 2*s.* 6*d.* The wood was treated with carbolineum, and they were considered as permanent farm buildings, as he thought such weather-boarded buildings might well be if erected with proper treatment.

Then as to roof-covering material. He could not claim to have had any experience of zinc roofs, but he had had a good deal to do with corrugated iron covered buildings, and he was afraid, with all due deference to Mr. Dudley Clarke, that it would be found necessary in some cases to paint iron roofs, and in such cases it would be necessary to consider whether under all the circumstances slate roofs would not be the most satisfactory in the long run.

Reference was made in the Paper to the necessity of having regard to wind pressure and other strains on the roofs. During the great wind storm which occurred about seven years ago, he remembered that many of the hay sheds in his own neighbourhood had suffered severely.

It was true that in one case a shed, generally used as a corn shed, had been put to a use it was never intended for, having been converted into a kind of sheep pen with the end and sides closed, so that the side of the shed was exposed to the full force of the wind, and the result was, that instead of the shed remaining upright, it was found after the gale to have been laid on its side.

He thought that Mr. Walmisley advocated, if he might venture to say so, a rather false economy in the erection of farm buildings in suggesting that ordinary labourers could put them together. Any one who had seen skilled men at work putting up sheds, and noted the facility with which they completed the erection of them, would acknowledge that, even with a foreman to pay, the result would be far better and more economical than if farm labour (which was very scarce) were employed.

With regard to the louvre ventilator referred to in the Paper, his experience was that no buildings were more suitable for cattle than those with the louvre ventilators. If a little snow came into the house it almost melted before it fell to the straw where the beasts were and on the whole he thought there was little objection to the louvre ventilator.

As to thatching, he was afraid it was rather out of date, in his own neighbourhood at all events. They did not grow rye straw, and wheat straw was scarce. But those were not the only objections. The principal damage to thatch was done by the sparrows. Even with netting over the thatch the sparrows seemed to be successful in getting into it. In spite of sparrow clubs and other means of trying to exterminate them these birds still did much damage, and thus caused thatch to be an expensive form of covering.

As to tile roofs, pantiles if properly laid, were not, he thought, open to the objections which Mr. Walmisley seemed to see, and in some parts of the country, far away from a railway station, where the carriage of slate and corrugated iron would be a somewhat expensive matter, and where there were tile-yards in the neighbourhood, pantiles formed as good a roof as could be got for the price.

Mr. C. JOHN MANN (Fellow) said that attention to economy was more than ever necessary at the present day, and the erection of really substantial farm buildings was not now being carried out to anything like the same extent as when he read his Paper on the subject in 1883. The demand for smaller farms was continually increasing, and large square open yards with buildings round were not so much required as they were 20 years ago.

The author in his Paper advocated the use of curved corrugated galvanised iron sheets for covering. To avoid damage by rusting the suggestions for fitting the corrugated iron together were a very great improvement upon the ordinary method. Painting every three or five years seemed to him to be a very useful suggestion, but the work was rather expensive. It was, of course, of primary importance to ascertain the various materials which were most accessible or could be obtained in the neighbourhood of the proposed buildings. It was of no use to specify certain walls, such as concrete for instance, where there was no labour available for the purpose, or to put asphalt floors where no one could be found accustomed to laying them. The particular kind of work which was generally well done in the neighbourhood should be carefully considered in selecting materials.

The weather-board buildings that Mr. Walmisley spoke of, with brick bases 2 feet above the ground, were, he thought, generally very satisfactory, as was particularly shown by some of the large old-fashioned barns, of which every one must have seen a great number in the course of practice.

He noticed that in the sketch, Fig. 7, Mr. Walmisley did not carry the brickwork up 2 feet. He thought it would be much better that it should be at least 2 feet above the ground, for the splashing of the rain and other moisture would readily get to the wood, plaster, and timber construction if the brickwork were less than 2 feet high.

He had often been called upon to put old barns in repair, or to convert them into various sorts of buildings, either for feeding cattle, or for implement sheds, or for working machinery. He never yet found any farmer who was ready to have them pulled down; however bad their state of repair might be they seemed always capable of a little more patching up.

He thought damp courses and air bricks ought always to be used.

Time would not allow him to go into the details of scantlings and of construction which Mr. Walmisley had dealt with, but he might say that he thought timber posts for curved corrugated iron roofs would generally be found more satisfactory than iron stancheons. He should like to have heard some further reference to moveable roofs, which he thought might be found very serviceable, and should be more generally used than they were.

He thought the suggestion for the shelter for cattle a very excellent one, and certainly 1*s.* 5*d.* per square foot was a very reasonable price for such an erection.

With regard to ventilation, Mr. Dudley Clarke seemed to think that the author's suggestion would involve much expense, and it struck him also that it would be costly to carry out. The simplest and cheapest method of ventilation was the raising of a ridge tile at intervals, and building in some agricultural drain pipes through the walls which could be turned up so as to avoid a cross draught.

Strong winds or gales affected the large curved iron roofs, as the author said, by getting under them without being able to escape; but he would no doubt provide that the upper part of each end should be left open to allow the escape of the wind.

Thatching seemed to him, when well done, to make very excellent roofs, the only disadvantage being that vermin in the course of years congregated in them. He had seen a great number of rats run out of a thatched roof after a heavy shower of rain.

He could not agree with Mr. Walmisley in saying that tiled roofs were seldom watertight. Laid at a proper pitch they should be thoroughly sound, and he was of opinion that water ran better off pantiles than from any other sort of roof.

Mr. SAMUEL TAYLOR (Fellow) thought he might take it that the main feature of the Paper was the comparative cost of the erection of farm buildings in view of the present difficulties of agriculture, He had himself no prejudice against iron roofing in any way;

he was indeed using it largely at the present time, but he thought it was altogether unsuitable as a covering for live stock in farmyards. It was no doubt very well adapted as a covering for manure, or for hay or for a straw barn; but for live stock he thought it was a very bad roofing indeed, and one he should never adopt or recommend. He had been engaged in designing and carrying out farm buildings for between thirty and forty years, and his experience was against using iron for that purpose.

Other coverings—slates, pantiles and flat tiles—were referred to, and he agreed with Mr. Walmisley, that pantiles were not a very satisfactory cover unless they were very well made, as was he feared seldom the case. Flat tiles were, he thought, the best cover. He had used them largely for the last thirty-five years, and had never in the whole of his experience had a single complaint of a well-laid roof leaking, and as to resisting winds and gales, they were, he thought, the best possible covering that could be used, for he did not remember any single case where buildings covered with flat tiles had suffered from storm and wind.

The next point to consider was relative cost. A set of ordinary farm buildings, comprising various sized erections, some of large and some of small area, could be covered with good timbered roofing and slated with the best slates at 9*d.* per foot superficial area, and covered with the best Staffordshire tiles at 11¾*d.*

For larger roofs, with framed trusses, he found the cost was, for a slated roof 10½*d.*, and for flat tiled roofs 1*s.* 0½*d.* How would that compare with the present price of corrugated iron, with the necessary supports? For large buildings be found that at the present time for a roof of about 50 feet span, the covering only would cost 1*s.* 4¼*d.*, and for a roof of 20 feet span, as Mr. Walmisley showed, at present prices the cost was about 11*d.* per foot; so that, even on the ground of price, he was in favour of timber and slate or flat tiles. A previous speaker had referred to wood roofs. A cheap roof to cover a yard (he was sorry to say they were not much approved of by tenants or there would be more put up) could be formed of creosoted boards and light framing laid in the way which Mr. Dudley Clarke had explained. That would cost, at the present price of labour and materials, about 7½*d.* per foot of area covered, and was much better than corrugated iron. He could not say it was absolutely damp proof, but no appreciable amount of wet could get through it.

Mr. A. MICHELMORE (Fellow) said he came from a part of the country where corrugated iron was rather the exception than the rule, and although he agreed with Mr. Walmisley in much he said in his Paper, he was personally of opinion that slate, where it was procurable, or tiles (pan or plain) were far preferable.

He had gone through the prices which Mr. Walmisley had given and also the scantlings, and he should like to take as an instance the question of slate roofs. Mr. Walmisley in his Paper advised that the principals should be 9 by 2½, rafters 4½ by 2½, and purlins 9 by 3. In his part of the country they would agree to 9 by 2½ framed principals with a king post and struts, but their purlins would probably not be more than 4½ by 3, and rafters 3 by 2 with slate battens on the rafters 2 by 1. A roof such as he had described would work out, with about 20″ by 10″ Bangor or Port Madoc slates, at £3 5*s.* per square. For corrugated iron roofs the author, he observed, fixed the cost at 60s. per square, but he estimated that these roofs could be done for £2 2*s.*

per square with 7 by 3 principals—5½ by 3 braces—principals 8 feet apart, and purlins 4½ by 3, and intermediate purlins 4½ by 2, covered with 22 B.W.G. iron.

He had not had much experience of curved iron roofs but in Devonshire it was considered that gable roofs, as they were called, were far preferable. Mr. Walmisley said he thought that the sheets should be riveted together, but in his district they used bolts, nuts, and washers, so that if a sheet or sheets had to be detached at any time it was simply necessary to unscrew the nut, and take off the sheet.

A previous speaker raised the objection to slate roofs that one might come out some morning and find a few slates gone, but his (the speaker's) experience was that one sometimes came out after a storm to find the whole of the corrugated iron gone.

He should have been pleased to hear a fuller reference in the Paper to the timber to be used for roofs, which was, he thought, a matter of great importance. Good foreign timber should be used in preference to English timber, which was to a great extent going out of use for permanent roofs. Some landowners thought that because they grew larch they should use it for permanent buildings, but he found that a great mistake. Larch buckled badly, and, as everyone knew, when a roof buckled it became uneven and admitted the wet.

With reference to pantiles, he had found that, provided the pitch were sufficient (say half-pitch), a very good roof could be made with good and substantial timbering, and for second class buildings he had found ordinary pantiles to be the cheapest covering.

As far as thatching was concerned, in Devonshire, unfortunately, they had very large areas with thatched roofs; but he thought the gentlemen who had spoken on the present occasion were probably not accustomed to the class of "reed" covering which they used. They combed their straw and called it "reed," which formed a compact covering, and the sparrows did not seem to affect it much.

Very briefly, his opinion was, that for first class farm buildings it was well to keep to slates or plain tiles; for second class to pantiles, and for third class buildings it might be allowable to fall back on corrugated iron. As far as thatch was concerned one would never, nowadays, think of thatching new buildings except for ornament; it was now quite out of date, and in his part of the country was only renewed on account of the expense of new timber, and where a better class of roofing was beyond the means of the proprietor.

Mr. A. MACDONALD BROWN (Fellow) said he thought that Mr. Walmisley in his Paper seemed to have given his attention almost entirely to corrugated iron, and he quite agreed with the last speaker that everything possible should be done to find some other material, which while within the limits of the landlord's means would yet have some pretension to be efficient. Corrugated iron was of course advocated because it was supposed to be the cheapest. It was difficult to get at any exact figures, although the last speaker had given some very useful comparisons, but from the Paper it was not quite clear what the saving was.

On page 31, a curved roof was mentioned which was apparently a very simple affair—without trusses, but merely sling rods—which worked out, taking the area of ground covered, at £7 per square. For that price he would undertake to put up a very good slated or tiled roof; but on page 32, for the cheapest roof that could be erected the timber would cost about £2 10*s.* per square of ground covered, or 6*d.* per foot; he did not know what Mr. Walmisley put corrugated iron at, but adopting his figure of £3 per square on page 34, this would mean about £5 10*s.*

Then on pages 33 and 34, there was a comparison with other roofs; zinc, corrugated iron, and slate; and Mr. Walmisley put the iron roof at £3 4*s.* per square of ground covered, while Mr. Dudley Clarke, who was a great authority on the subject, put the cost at £2 11*s.* 4*d.* per square for corrugated iron and timber. If this latter price were correct, he did not suppose that any tiled roof could compete with it; but he found that in his neighbourhood it was not possible to erect roofs of the simplest kind at such a low price. It cost, he estimated, about £2 per square of ground covered for iron, and about £2 for timber framing, simply for roofs without any allowance for sub-structure at all, that is, £4 per square in all.

But, after all, was iron the cheapest and most efficient covering? He ventured to doubt it. About ten years ago he put up a set of farm buildings on which he used the Bridgwater tiles already mentioned. He thought they were called the double Roman tiles. There were two corrugations on each, and they were about 15 inches by 15 inches in size, say 75 to the square of roofing. These made a very efficient covering, warm enough for stock, and weather-tight for storage of implements. The objection to the old pantiles that the wind would raise them, did not apply to these improved tiles. Some of the sheds were open implement sheds and cart sheds, and the wind had never raised the roofs, and, if it did, it would have to raise the whole lot, for they were firmly locked together. He found such a roof could be put up now for about £4 per square of ground covered, and it was certainly more sightly even than the ordinary tiled roof.

Corrugated iron buildings were certainly not a very pleasing feature in a landscape, and he hoped that land agents would not make themselves responsible for planting rural England with what had been called "tin tabernacles."

On page 39, the author referred to a cattle shed shown in figures 19 and 20, which worked out at 1*s.* 5*d.* per square foot, or £7 per square of ground covered. He should like to know if this included the whole details shown. Perhaps Mr. Walmisley would kindly explain what was included in that 1*s.* 5*d.*

With regard to large spans, of which examples were given, and which were necessarily expensive, he thought it would be very much better in all farm buildings (where practicable) to start with some unit of size for buildings, say 18 or 20 feet wide as the case might be, and to make all the roofs multiples of that unit. He thought it would be a great deal cheaper, and quite as efficient, to have a succession of smaller spans. The question of valley gutters would not be a serious one, as such a structure for a covered yard need not be absolutely watertight.

Mr. J. R. Parkin (Fellow) said that the previous speakers had already dealt with a good many of the questions which he had intended to raise, but there were one or two points on which he should like to hear the opinion of Members. For instance, one or two speakers had maintained that felt was objectionable. It certainly was so as a rule; but in the case of a roof which had already become perforated, he found felt very useful. A roof could be covered by felt attached by a glutinous composition, and then tarred and sanded. This made a good wearing roof at a cost of only about 1*s.* 2*d.* net. per square yard.

Reference had been made to the Derbyshire hay barns, which were constructed between four or more "ordinary telegraph poles," with a lightly framed balanced roof covered with zinc, which could be raised or lowered. All the woodwork was painted with carbolineum aveneris. They cost, roughly speaking, about 25*s.* to 30*s.* per yard of ground covered. It was a very convenient form of hay barn, being adaptable as regards capacity to the amount of hay harvested or stored.

He did not find in the Paper any reference to the difference of weight of the various roofs. After some experience of corrugated iron, he could not say he liked it very much. The weight of 16 B.W.G. corrugated iron was about 350 lbs. to the square of 100 feet, and of sheet iron 250 lbs.

Straw thatch roofs, of which a large number were used in the country, weigh about 650 lbs. to the square, and zinc $\frac{1}{32}$ of an inch thick about 150. lbs.

Mr. J. H. Sabin (Professional Associate) said he could hardly think that the actual cost of covering a mere dutch barn could be anything like so great as was suggested by the author of the Paper, if reasonable care were taken to get the assistance of the tenant. He had with him the details of some dozen or more dutch barns erected in different parts of the country during the last few years, and the contractors' actual prices came out at about 7*s.* a yard. He hoped later on to make a communication to the *Professional Notes* on the subject.

The PRESIDENT said he had intended, in summing up the discussion, to make some few remarks on the Paper, but the subject seemed to have been already so well discussed, that his observations might be regarded as superfluous.

He agreed with Mr. Taylor, of whose large experience he was aware, as to the comparative cost of slated buildings and other wooden erections. He had himself generally adopted the plan of putting up creosoted wood buildings. He found they were the cheapest he could get, and he should like to ask Mr. Walmisley what was his experience of such erections.

Mr. WALMISLEY, in reply, said he had first to thank the meeting very heartily for the attention which they had given to his Paper.

It seemed to be the privilege or the characteristic of surveyors to differ, and "when doctors disagree, who shall "decide." Everyone was entitled to his own opinion; but the discussion of his Paper had shown that on such points as it raised a wide diversity of views was possible. His object had not been to advocate the use of corrugated iron exclusively, as preferable under all conditions to other materials, but to show from an engineer's experience how corrugated iron roofing might be advantageously and economically put up, if corrugated iron should be decided upon. He did not attempt to prove that corrugated iron was the best form of covering for farm buildings under all circumstances, and he had in his Paper also referred to certain timber buildings, and buildings covered with slates.

With reference to the remarks of Mr. Dudley Clarke, he must acknowledge that his Paper suffered from omissions, of many of which he was well aware, but it did not pretend to be exhaustive. It was written simply, as he had stated, with the view of discussing a few considerations of detail of structure.

It had been said that the cost of 1*s.* 5*d.* per square foot for the covering of a manure shed (Fig. 5) was excessive. He might state that this was the actual price given him by the contractors. The prices given were not mere estimates, but were actual quotations from well-known firms. There were no doubt a good many arguments in favour of timber *versus* iron, but in all cases the local circumstances must be considered. It was always a question not only of how the most suitable material could be obtained, but of what available labour could be employed to carry out the work.

The cost of corrugated iron had been alluded to in the discussion as 42*s.* a square, but the price of everything had lately risen very much indeed, and was more for a curved roof than for a straight covering. With reference to corrugated iron, he should like to call attention to the fastenings by which, as he said on page 39 of his Paper, "the interception of the con-"densation by the purlin as in the old method" was prevented. The condensation was allowed to run down inside the sheets, from the roof to the eaves. Those improvements of Mr. Thomas and also those of Mr. Windle deserved to be better known than they were; because to have the condensation dripping down inside the corrugated iron was very objectionable. As regards the remarks on the height of brickwork for sleeper-walls above the ground, this of course depended mainly upon the dry or wet condition of the soil. The higher the brickwork for such purposes, the more steps would be needed, or the longer or steeper would be the ramp approach.

The President had asked whether he had any experience of creosoted timber buildings? Creosote was an excellent preservative in certain situations, but when he was asked whether he was going to creosote the timber he was dealing with in engineering work he always asked, "How far do you think the creosote goes "into the wood?" If, for instance, a hole was bored for a bolt, that hole was not creosoted, and revealed to what extent the creosote had penetrated. Of course if all the holes could be properly made before the creosoting process was applied that would be a different thing; but it was practically certain that some connection for bolts would have to be made in the course of erection, which would expose a surface which was not creosoted, and there the element of deterioration could introduce itself. In conclusion, at this late hour of the evening, he would simply thank the Members for the way in which they had received his efforts, which he was very pleased to find had elicited so practical a discussion, and this he thought would add more useful matter to the *Transactions* than even the Paper itself.

The vote of thanks having been put and carried unanimously, the Meeting then adjourned.

PAPER 261.
No. 419.

THE FUTURE OF THE LONDON WATER SUPPLY.

BY R. E. MIDDLETON, M.INST.C.E., FELLOW.

Read at the Ordinary General Meeting of THE SURVEYORS' INSTITUTION *on Monday, December 10th,* 1900.

JOHN SHAW (President) in the Chair.

The future of the water supply of London is of so much importance to the inhabitants of the Metropolis, that a short statement setting forth the estimated population to be provided for, the amount of water to be afforded, the sources from which it is to be obtained and the effect of taking water from one district for the supply of another, cannot, it is thought, fail to be of interest to the Members of this Institution.

I am very fully aware that the task I have undertaken is difficult, and that the number and complexity of the questions to be considered is great, but I trust I may be able to put a plain story into plain words, and to brush away some, if not all, of the cobwebs which have been woven round this important subject, and show it to you as it is.

Population.

Water Examiners' Return 1891.

The eight great Water Companies, the Chelsea, East London, Grand Junction, Kent, Lambeth, New River, Southwark and Vauxhall, and West Middlesex Com-

R. C. 1893, par. 26. panies, supplied water to a population of 5,232,155 persons in the year 1891, while the population of Greater London, including the outlying portions of Water London, was at the same date 5,732,950, or 500,795 in excess of that included in the area supplied by the Water Companies.

The population of 500,000 odd not supplied by the eight Companies is located partly within and partly without the areas of supply of these Companies, but R. C. 1893, par. 27. entirely within the area of 845 square miles comprised in Greater London and the portions of Water London lying outside of Greater London, which for the sake of simplicity we will call "Metropolitan London," and obtains water from the following nineteen Companies or Corporations: namely, the East Surrey, the West Surrey, the Sutton, the Limpsfield and Oxted Companies, the Croydon and Richmond Corporations, and the Epsom Local Board, to the South of the Thames. The South West Suburban Company supplies both in Surrey and Middlesex, and the Barnet District Gas and Water Company, the Central Middlesex, the Colne Valley, the Rickmansworth, and Hoddesdon Companies, and the Uxbridge, Cheshunt, Enfield, Tottenham, and Ware Local Boards, supply in the counties of Middlesex and Hertford, while the South Essex Company supplies part of Essex..

The population of Greater London, 701 miles in area, was 5,659,909 in 1891, increasing at the rate of 18·2 per cent. per decennium, and that of the outlying portions of Water London, with an area of 144 square miles, was at the same period 76,041, increasing at the rate of 19·7 per cent. per decennium. The population of Metropolitan London will therefore be, following the same rate of progression, at the end of each decade—

	Greater London increasing at rate of 18·2 per cent. per decennium.	Outlying portions of Water London increasing at a rate of 19·7 per cent. per decennium.	Metropolitan London.
1891	5,659,909	76,041	5,735,950
1901	6,685,445	91,407	6,776,852
1911	7,900,987	109,385	8,010,372
1921	9,337,542	130,899	9,468,441
1931	11,035,289	156,645	11,191,934
1941	13,043,712	187,504	13,231,216
1951	15,417,667	224,442	15,642,109
1961	18,223,682	268,657	18,492,339

The density of population in the County of London, with an area of 118 square miles, was in 1891 56·1 per acre. A population of 18,223,682 in 701 square miles would be at the rate of 40·6 per acre.

With a density of 56·1 per acre, 845 square miles would contain a population of 30,338,800.

That the population of London, a city or aggregation of cities standing for the most part on an area circumscribed by a line drawn with a radius of 15 miles, with Charing Cross as a centre, will ever reach a figure of 18½, not to speak of 30 million persons, is to say the least of it improbable, but prophecy on this subject would be improper even if it were possible. If, however, it can be shown that the same sources of supply which have been sufficient in the past can, if adequately guarded and under proper treatment, be made sufficient for the future requirements of this vast population, it will be agreed that no anxiety need be felt for the immediate future, that each succeeding census will tend to prove or disprove the assumptions on which the estimate of the future population is based, and that it will be sufficient, when the population of London has reached a total of 15 million persons (should that time ever arrive), to inquire whether London does or does not require any addition to its water supply which cannot be afforded by an extension of the system already adopted.

Population in the Area of Supply.

Besides the population of the Metropolis, there were in 1891, in the valley of the Thames above the intakes of the Metropolitan Water Companies near Hampton, 1,056,415 persons, increasing at the rate of 9·88 per cent. per decennium, and in the valley of the Lea above the intake of the East London Company, 189,287 persons, increasing at the rate of 14·17 per cent.

Following out these figures, the population in the valleys of the Thames and Lea would be in 1961—

In the Thames Valley	2,042,985
In the Lea Valley	478,614
Total	2,521,599

In the chalk area of Kent, to the eastward of the Kent Company's district, and to the north of a line drawn from Sevenoaks to Dover, but excluding the Isles of Thanet and Sheppey, which could not do more than supply their own population, there was in 1891 a population of about 379,819 persons, increasing at the rate of 11·7 per cent., which, following the same rate of increase, would make the population in this area in 1961 = 824,041.

In the county of Essex, the district which is increasing in population with the greatest rapidity lies within the area of 845 square miles, which we have called Metropolitan London. It is improbable that the rest of the county will be supplied to any great extent from the valleys of the Lea or the Thames, or from any district which will be called upon to contribute to the supply of the Metropolis, and it will suffice if 100,000 be added to the population in 1961, already referred to, to meet any calls in this direction.

The total population to be provided for in the future up to the year 1961, taking the rate of increase to continue as it was from 1881 to 1891, will be—

Population to be supplied with water.		Metropolitan London.	Thames Valley.	Lea Valley.	Kent.	Essex.	Total.
6,149,551	1891	5,735,950	1,056,415	189,287	379,819	33,782	7,395,253
7,240,547	1901	6,776,852	1,160,789	216,109	424,258	39,447	8,617,445
8,530,330	1911	8,010,372	1,275,475	246,732	473,896	46,062	10,052,537
10,051,570	1921	9,468,441	1,401,492	281,694	529,342	53,787	11,734,756
11,846,016	1931	11,191,934	1,539,959	321,610	591,275	62,807	13,707,585
13,965,009	1941	13,231,216	1,692,109	367,182	660,454	73,339	16,024,300
16,465,474	1951	15,642.109	1,859,289	419,212	737,727	85,638	18,743,975
19,416,380	1961	18,492,339	2,042,985	478,614	824,041	100,000	21,937,979

Of the water supply for this estimated population of 22 millions in round numbers, that for the metropolitan area, in the county of Kent and in Essex, passes away, after being used, into tidal waters, while that drawn from the valleys of the Thames and the Lea, for the use of the population living above Hampton and Chingford, is returned to the land and eventually to the rivers, and is therefore available for the supply of the population below; the total population to be supplied may therefore be reduced by 2,521,599 to 19,416,380, or say 19½ millions.

There are breweries and manufactories both in the valleys of the Thames and the Lea which use large quantities of water, but practically the whole of it is returned to the rivers, as the small quantity which is carried away in steam and in beer, &c., forms such an infinitesimal proportion of the whole that it may be ignored.

So far as I am aware, the only water which is carried away is that drawn by the London and North Western Railway Company from their chalk wells at Bushey, and even this goes in reduction of the water used for trade purposes in London, as does the water pumped from wells in London for similar and other trade purposes.

That the requirements of the population of the valleys of the Thames and Lea above the intakes of the Metropolitan Companies can be affected by the water drawn from these rivers at Bell Weir, Sunbury, Hampton, Ware, or Chingford, or from wells sunk in the chalk at Streatham, and from Ware to Barking, is not possible Were it not that they return the water to the land or to the rivers after using it, the inhabitants of the upper reaches of the valleys of the Thames and Lea, having the first pull, could deprive those below them of water, but they themselves cannot be deprived, nor can their supply be reduced, and, as things are, neither suffers; it is the interests of those situated below the intakes and below the pumping stations, not those above, which have to be considered, and the requirements of the former are fully safeguarded in the scheme which I have propounded by their inclusion in the population to be supplied.

When reservoirs are formed in natural valleys for the supply of water to a particular town or district, it is usual for the promoters, who have to pay for the necessary works, to obtain powers over the drainage area down to the position of the dam, to impound all the water flowing off the drainage area, and to give back to the river, as compensation for the right to abstract a certain amount of water from it, about one-fifth to one-third of the available water running into the reservoir on the average of three dry years. The remainder of the water, except so much as may run away over the byewash of the reservoir, becomes the absolute property of the promoters.

Under these circumstances no large quantity of water can be abstracted from the river above the dam, while below the dam the flow of the river is reduced to something less than one-third of its average volume, and it is unlikely that Parliament would allow anything further to be taken from the main river, though that body might perhaps permit other reservoirs to be constructed by the same or another authority, and on similar conditions as to compensation, on one or other of its tributaries.

Under the conditions referred to above, neither those above nor those below the waterworks can hope to be able to draw any considerable quantity of water from the river.

The reservoirs already constructed in the basins of the Thames, those in course of construction, and such as may be built in the future, are designed to be used under totally different conditions. The promoters are not empowered to take the whole of the waters of the river, but may only pump the water into the reservoirs when it exceeds a given quantity. They can only take such surplus water as flows down to their intakes, and cannot prevent those above them from drawing water from the river for their own purposes, though no doubt they would successfully oppose the abstraction of water if it were the intention to divert it to the use of a district outside the drainage area of the Thames, and to prevent its return to that river or to land within the drainage area.

The intakes to the reservoirs are situated so far from the source, and so near to tidal waters and to the Metropolis, that the population below the intakes will be provided with water drawn from the several intakes, and cannot suffer from any abstraction of water from the river even if it were greater than is proposed, while it has been shown that the inhabitants living above the intakes would not be interfered with in any way.

In the case of impounding reservoirs, as for instance those proposed by the London County Council to be constructed in Wales, a given very large quantity of water would be abstracted from the area of supply for the use of London, and would be entirely lost to the inhabitants of the area from which it was drawn and to those living geographically below the reservoirs.

It is calculated, on the assumption that the rate of increase existing between 1881 and 1891 is maintained, that the effective population within the area of supply —the population to be supplied with water from the sources to be enumerated hereafter—will number 19½ millions in 1961 ; but the figures are based on the merest assumption. In calculating the probable population at any given date in any of the large provincial towns, it is generally assumed that there will be a decremental rate of increase, that is to say, the rate will be less than compound and greater than simple, but whatever assumption be made it is based on knowledge derived from the past, and is, at best, only assumption.

For the present purpose the percentage of the rate of increase will be taken as constant.

Rate of Supply to be afforded.

The Royal Commission presided over by Lord Balfour of Burleigh, decided, after hearing a very large amount of evidence on the subject, that a supply at the rate of 35 gallons per head per diem for all purposes is ample.

It has been maintained that advanced and advancing sanitation, the increased use of public and private baths, the demands for street watering, flushing of sewers, &c., necessitate a much larger use of water, and that a supply at the rate of 35 gallons per head is inadequate.

The gross misuse of water which is allowed to exist in the cities of America, and the lavish supply afforded in Glasgow and at times in Paris, have been adduced as arguments in favour of this contention, but the experience of provincial towns disproves it.

It is notorious that the waste of water in America is unparalleled, that Glasgow will have to curtail its supply, and that Paris is in great straits for water at the present time, while it has been repeatedly shown that the legitimate use of water for domestic purposes in large towns does not exceed 17 gallons and in country districts from 10 to 12 gallons per head.

The supply afforded by the Metropolitan Water Companies has, during the last three very dry years, exceeded 35 gallons per head. There can be no doubt, however, that this quantity could be very materially reduced, probably to 27 gallons per head, if the Companies enforced with the utmost stringency the powers they have, and obtained such further powers for the prevention of useless and unnecessary waste as are possessed by many provincial companies and corporations.

Should the undertakings be transferred to a Trust, as recommended by Lord Llandaff's Commission, it is certain that waste would be put down with a strong hand, and that the water consumer would be brought under much more strict supervision than he is accustomed to at present.

Taking the rate of supply to be that provided for by Lord Balfour's Commission, or 35 gallons per head, including that required for the rural districts—a very ample provision indeed—the quantity of water to be supplied at the end of each decade will be—

AVERAGE DAILY SUPPLY OF WATER TO BE PROVIDED.

	Gallons.
1891	215,234,285
1901	253,419,145
1911	298,561,550
1921	351,804,950
1931	414,610,560
1941	488,775,315
1951	576,291,590
1961	679,573,300

The actual increase in supply does not proceed by regular increments, but depends to a considerable extent on the conditions of each year, whether the general temperature is high or low, whether there is much or little rain, and whether the winter period is open or frosty. It is necessary therefore to provide for something more than the calculated requirements, to the extent of, probably, about 5 per cent. The greatest possible provision necessary to be made for the year 1961, supposing the population at that date to number 19½ million persons, would therefore be 717½ million gallons a day.

Before proceeding to examine into the question of how this quantity of water (more than three times the average supply at the present date) can be provided, it is necessary to clear the way by the removal of erroneous interpretations of the findings of the two Royal Commissions of 1893 and 1899, and other stumbling blocks which interfere with a true solution of the problem under consideration.

It has been repeatedly stated that the report of Lord Balfour's Commission gave a verdict to the effect that only 300 million gallons a day were available from the Thames.

The report of Lord Balfour's Commission contains not one word to this effect, nor does the later report of Lord Llandaff's Commission confirm the statement erroneously said to be made by Lord Balfour's Commission. On the other hand the report says:

> "We do not understand Lord Balfour's Commission "to have expressed any opinion as to 300 million gallons "a day being the limit."

R. C. 1899, par. 130.

We are asked to believe that Lord Balfour's Commission, on which the engineering profession was represented by Sir George Bruce (who was also a member of Lord Llandaff's Commission), Mr. Hill, and Mr. Mansergh, was deceived in its estimate of the capabilities of the Thames to supply 300 million gallons a day, or 22 per cent. of the average flow of the river.

On the other hand we are required to accept as a conclusion with which there can be no cavil, that an area of 488 square miles in Wales, only one-eighth of the drainage area of the Thames basin, can supply 415 million gallons a day without injury to the rivers, or in other words be nearly eleven times as productive as an equal area in the Thames basin.

It is desirable at this stage to consider what is the real value of the Thames for purposes of supply, and to compare it with the Welsh drainage area, and with impounded supplies generally.

The drainage area of the Thames down to Teddington Weir is 3,766 square miles, or down to the Companies' intakes 3,548 square miles, and the average rainfall on this area is 28·50 inches.

The actual average run off from the larger area is about 1,450 million gallons a day, or 9·7 inches of rain, the average of three dry years 1,016 million gallons, or about 6·8 inches of rain, and the flow of the driest year was 644 million gallons a day, or 4·3 inches of rain.

In order that the same run off should be obtained from 488 square miles in Wales the average rainfall would have to be approximately 90 inches, whereas it is doubtful if it is so much as 55 inches. The value of the Thames basin as an area of supply is therefore greater, not less, than that of the Welsh rivers.

The run off from a considerable area of this district was not, on the average of two years, more than 37 inches. If the value of the whole district be taken at 40 inches of rain, its value as compared with that of the Thames is as 488 × 40 to 3,548 × 9·7 inches, or as 1 to 1·76 nearly, all the advantage being with the Thames.

I wish it to be understood that I do not pin my faith on these figures as representing the average run off from the Welsh district; they may or may not do so; the probabilities are that on the average of a number of years the run off is more than 40 inches, but not to such an extent as to materially affect the comparison with the Thames.

The least natural flow of the Thames during any month was at the rate of 212 million gallons a day. At such a time, supposing the average supply to be afforded to be 415 million gallons a day, the maximum draft on the Thames Valley reservoirs would be 495 million gallons a day.

The least natural flow in the Welsh area would be not more than 35 million gallons a day, and the draft on the reservoirs, under like conditions with those already instanced for the Thames, would be 677 million gallons a day or thereabouts; and it is again shown that the advantage rests with the Thames.

Experience has proved that impounded supplies have, when worked to their full capacity, failed to afford the quantities of water expected from them, and there is no reason to suppose that the Welsh area would be an exception to this rule; indeed the gaugings of one of the rivers show that in order that the estimated supply should be afforded the reservoir capacity would have to be largely increased.

On the other hand the Thames has been gauged for more than 16 years, during which period the rainfall has been 2 inches, or 7 per cent. below the average. The rainfall of the last 2½ years was 23·3 inches, which is 18·3 per cent. below the average.

These figures agree very closely with the rules which are accepted as governing the flow of rivers, and so far from disproving the findings of Lord Balfour's Commission, they confirm them.

In another respect the Thames has the advantage over Wales, in that while the storage capacity requisite for a supply of 415 million gallons a day from Wales is estimated by the promoters to be 104,600 million gallons, on the terms set forth in the report of Lord Llandaff's Commission, namely, that storage may be calculated on the basis of the year 1893, the requisite storage in the Thames Valley would be only 45,000 million gallons, or 43 per cent. of that necessary to supply the same quantity of water from Wales.

R. C. 1899. par. 109.

The flow of certain Welsh rivers has fluctuated, on the average of a month, from something like 4·4 million gallons at the lowest to 2,500 million gallons a day at the highest, or in the proportion of 1 to 568, while the flow of the Thames varies from 212 million gallons at the lowest to 6,400 million gallons a day at the highest, or in the proportion of 1 to 30.

The lowest flow of the Thames is 48 times that of the Welsh rivers, while the highest is 3 times that in Wales.

I should explain that, taking the full area of 488 square miles in Wales at the same rate, the lowest monthly flow of the Thames would be equal to 6 times the lowest flow in Wales, while the highest flow in Wales would be 3 times the highest flow in the Thames.

Storage must be made use of, whether in the Thames, in Wales, or elsewhere, if the water is to be employed to the best advantage; and it is obvious that the more regular the rate of flow and the less the quantity of water to be used in comparison with the average flow off the drainage area, the more certain is the supply and the smaller the reservoir capacity to be constructed for a given supply.

The advantage is with the Thames in both respects, as it is not proposed to use, for purposes of supply, more than 30 per cent. of the average flow of that river, while something like 60 per cent. of the average flow of the Welsh rivers would be abstracted for a like purpose. In the Thames the flow is so well maintained that it is unnecessary to give compensation water to the river, while in Wales at the time of minimum flow compensation to the extent of from 100 to 175 million gallons a day would have to be afforded, and the requisite storage increased by from 20,000 to 35,000 million gallons for that reason.

As regards cost, the comparison is again largely in favour of the Thames. In the items which are strictly comparative Lord Llandaff's Commission found that the cost of reservoirs and appliances in the Thames Valley would be as 1 to 2·3 when compared with the like provision from Wales. I am of opinion that this is an under estimate, and that the comparative figures should be as 1 to 2·8. R. C. 1899. par. 122.

The above comparisons refer to works other than those for filtration, for service reservoirs, and distribution, which must be incurred whether the supply be drawn from the Thames, the Lea, and from wells, from Wales or elsewhere.

To return to the arguments which have been raised against the continued use of the Thames and the Lea; it has been suggested that the water derived from these rivers is polluted, and is liable in the future to increased pollution, due to a larger population.

The Report of Lord Balfour's Commission refutes this contention, and the freedom of London from zymotic disease nullifies it. Since the Thames Conservancy obtained their Act in 1894 there has been a reduction, not an increase, in the organic impurities contained in the water, and the knowledge obtained during recent years of the biological treatment of sewage points to a time, not far distant, when, even in populous districts, our rivers may be freed from impurities, and be kept nearly as pure as those which run through barren tracts. R. C. 1893. par. 178. R. C. 1899. par. 142. R. C. 1893. par. 165.

In this connection Mr. James Mansergh, President of the Institution of Civil Engineers, in his Presidential Address delivered on Tuesday, November 6th last, called attention to the danger which may be apprehended from water derived from sources hitherto considered pure. He said: "A word of warning may be spoken with regard "to water obtained from elevated and sparsely populated "moorlands, for the danger is, in my opinion, greater if "such water became infected, especially if not passed "through impounding reservoirs, than if the supply were "taken from a large river."

In order to attain the much desired result of freeing our rivers from impurities, it would be of the utmost advantage if the existing divisions of the country into counties, unions, and parishes were, for water supply and sewage purposes, replaced by drainage areas, which could be conserved on a system similar to that of the Thames basin, but somewhat more extended in its application.

Although Thames water contains more impurities of animal origin than does that flowing from the Welsh rivers, it must not be supposed that the latter is free from organic matter, or that it is invariably clear and bright.

Among many other questions which appear to be misunderstood there is one error which requires correction. It has been stated in the press that the area of reservoirs in the Thames Valley, to afford a supply of 300 million gallons a day, will be 10 square miles. According to the Report of Lord Llandaff's Commission the capacity of the reservoirs yet to be constructed to afford this supply should be 17,500 million gallons. The area of Staines reservoirs to contain 3,300 million gallons is 421 acres, or two-thirds of a mile; therefore, with the same depth of water, reservoirs to hold 17,500 million gallons will have an area, not of 10 square miles, but of 2,233 acres, or 3½ square miles.

R. C. 1899. par. 109.

R. C. 1899. par. 104.

The above calculation is based on the supposition that the reservoirs to be constructed in the future will be of similar capacity with those in course of construction at Staines, but, should the reservoir capacity be increased, more water is stored on a given area, and it also becomes economical to increase the depth of water; therefore the total future area of land to be employed for reservoir purposes up to a supply of 300 million gallons a day is likely to be less rather than more than 3½ square miles.

The maximum area to be occupied by reservoirs, including those already constructed or in course of construction, according to the conditions set forth in the Report of Lord Landaff's Commission, is, for a supply of 400 million gallons a day, 7½ square miles.

R. C. 1899. par. 108.

R. C. 1899 par. 106.

Sources of Supply.

Having estimated that at some date or another, which for the sake of argument has been called the year 1961, the population to be supplied will number 19½ millions, that the rate of supply, which, supposing waste be prevented, may provide for much cleansing of streets and for public fountains, will be 35 gallons per head, and that the quantity of water to be supplied, including a reserve of 5 per cent., will be 717½ million gallons a day, it is required to show from what sources this enormous quantity of water, which is half of the average flow of the Thames, can be drawn.

The Thames.

The area of the Thames basin down to the intakes of the Water Companies at Hampton is 3,548 square miles, and the water run off from this area during the last 16 years has measured 8·22 inches of rain, or 1,166 million gallons a day; the average rainfall during the same period has been 26·36 inches, or 2·14 inches less than the 28·5 inches which the late Professor Symons determined to be the general average rainfall in the drainage area of the Thames above London. It is not easy to determine what proportion of the 2·14 inches deficiency of rainfall during the last 16 years would on the general average of years find its way into the river, but it is not likely to be less than two-thirds, which would make the general average run off over a long period of years 9·64 inches, say 9·70 inches.

If the average run off be 9·70 inches of rain, the average flow is 1,376 million gallons a day. The Report of Lord Balfour's Commission puts this figure at 1,350 million gallons daily.

The run off of the Thames measured at the same point has been, on the average of three dry years, 970 million gallons a day, and during the driest year 616 million gallons daily.

Speaking generally, the amount of water drawn from the Thames during any year will approximate to the average supply; the proportion of the flow of the river taken for this purpose will therefore be on the average of years 30 per cent., and on the average of three dry years 40 per cent. nearly.

During the driest year the quantity of water drawn from store is so large in comparison with that drawn direct from the river as to amount probably to some 90 million gallons daily, and the average quantity drawn from the river during such a year will not exceed 310 million gallons a day, or 48·17 per cent. of the river's flow.

In the Welsh rivers, supposing the proposed reservoirs to be of sufficient capacity, and a quarter of the average available flow of three dry years to be given as compensation, the proportion drawn for purposes of supply would be on the average of years approximately 55 per cent., on the average of three dry years 72 per cent., and during the driest year 98 per cent.

It does not require any very elaborate calculation to show that the supply which is only 48 per cent. of the flow of a river, during the driest year for more than 80 years, is better secured than when 98 per cent. of the whole flow of the drainage area has to be taken to satisfy an almost identical supply.

Although it is herein accepted that, under the conditions of storage recommended by the Royal Commissions presided over by Lords Balfour of Burleigh and Llandaff, the maximum supply to be drawn from the Thames is 400 million gallons a day on the average of a year, it must not be concluded that the capabilities of the river for purposes of supply are thereby exhausted, but that it becomes a serious question whether it is economically desirable to further increase the demand on the supply to be drawn from this source.

River Lea.

Lord Balfour's Commission decided that, with the introduction of adequate storage, which is in course of construction, 52½ million gallons a day can be obtained from the River Lea. R. C. 1893. par. 135.

Twenty-two and a half million gallons daily are taken by the New River Company without storage, 5,400,000 gallons daily must be provided for the use of the Lea Navigation and 30 million gallons per diem are, under the above conditions, available for the East London Company.

The average flow of the River Lea, as measured at Feilde's Weir, is about 120 million gallons daily, or 7·11 inches of rain run off from an area of 422 square miles.

The average rainfall in the Lea Valley is 26·50 inches (Sir John Evans says 26·24 inches), while the average for the last 16 years has been 23·91 inches, or a deficiency of 2·59 inches.

The average run off for the same period has been 6·31 inches of rain, equal to 106½ million gallons a day.

The average flow of the Lea during the three dry years 1897, 1898, and 1899 was 78·4 million gallons daily, and during the driest year 42·3 millions.

R. C. 1893. par. 123. The rainfall for the years 1862-3-4 was 21·86 inches, and the run off was at the rate of 4·79 inches, or 80·8 million gallons a day. For the years 1863-4-5, the rainfall was 22·88 inches, and the run off 4·48 inches, or 75·6 million gallons daily. The average ratio of the run off to rainfall is 20·7 per cent.

For the years 1893-4-5, the rainfall was 23·28 inches, and the run off was 4·89 inches, or 82·5 million gallons a day. The rainfall for the years 1897-8-9, was 23·56 inches, and the run off 5·23 inches, or 88·2 million gallons per diem. The average ratio of the run off to rainfall is 21·2 per cent. These figures are corroborative one of the other, and it is shown that there is no falling off during the later period in the proportion of the rainfall which finds its way into the river.

Wells in the Lea Valley.

R. C. 1893. par. 125. In the Report of Lord Balfour's Commission it is stated that, on the average of three dry years, 56 million gallons of water may be pumped daily from the chalk basin of the Lea Valley without injury to any material interests, and that during the driest of three dry years 47 million gallons a day may be pumped.

In corroboration of these figures, if the average rainfall be 26·5 inches, and the loss by evaporation so high as 16 inches, the available rain will be 10·5 inches, or 177,240,000 gallons a day, but the average run off of the river is 120 million gallons daily; there is therefore a quantity of 57,240,000 gallons a day which passes down through the chalk basin, and does not find its way into the visible river.

Should the loss by evaporation be 15 inches instead of 16 inches per annum, as seems probable, the available rainfall will be 11·5 inches or 194,120,000 gallons daily, and the quantity passing down through the chalk basin 74,120,000 gallons per diem.

Having shown that the available water in the chalk basin is certainly as much as 57 millions gallons daily, and may be 74 millions, it is unnecessary to follow the argument further, especially as these figures confirm the conclusions arrived at by Lord Balfour's Commission.

Even supposing the pumping during the driest year to exceed the available supply due to the rainfall of that year, a contention negatived in the Report of Lord Balfour's Commission, the reduction in the level of the water in the area below the pumping station due to pumping would be very small, and in the area above the pumping stations it would be non-existent.

It is not possible to estimate with any degree of accuracy either the area of the chalk basin below the pumping stations which might be affected by excessive pumping nor the capacity of the chalk for parting with the water contained in its pores and fissures, but it is not unreasonable to calculate that a reduction of level of 1 foot over the whole area would mean the removal of some 50 million gallons of water daily; thus excessive pumping to the extent of 10 million gallons a day continued for a year would mean a reduction in level of $\frac{1}{5}$th of 1 foot or 2·4 inches.

Obviously the level is not reduced, if it be reduced at all, regularly over the whole area, but is at its maximum in the line of the wells, decreasing to nil at a short distance above the highest pumping station and laterally from the same station, and widening out lower down in the area; the depression may therefore extend to many inches at the well, although when extended over the whole area it is very trifling.

Whatever the reduction of level might be in one year of great drought, in the next year of excessive rainfall it would be made up again and something over.

As regards the area above the pumping station, a little consideration will, it is thought, show conclusively that the effect of pumping cannot extend beyond a limited distance. What that distance is must depend on the nature of the material in which the well is sunk, on the depth of the well, and the level to which the water is reduced in it when pumping.

In a purely chalk formation it is believed that the effect of pumping is seldom felt at a greater distance from the well than ¼ of a mile calculated on the level; when the well is situated at the foot of a steep escarpment this distance is likely to be exceeded, and the same holds true of a chalk area covered with gravel charged with water, and it is known that the effect of pumping has been felt in a chalk area at a distance of a mile.

Given a well sunk to the bottom of the chalk on to the impermeable stratum below it, given engine power sufficient to pump the well to the bottom, and to continue pumping without intermission from year's end to year's end, not always at the same rate, but so as to keep the pumping level of the water in the well as near the bottom as is practicable: continuance in pumping will not extend the area of absorption, which will only vary from season to season with the level of the water in the surrounding strata.

If the level of the water in the district rises, so will it rise in the well; if the level of the water in the district sinks, the water in the well cannot sink lower, for it is already at the bottom; the diameter of the cone of absorption will therefore be reduced and the quantity of water pumped from the well will be decreased.

The same principle may be applied to a visible and uncanalised river, and an illustration drawn from such a source may appeal more readily to the mind than where underground and invisible sources are to be considered.

Let a well be sunk in the middle of an uncanalised river, and let pumping machinery be provided of sufficient capacity to lift the whole of the water running down to the pumping station at any time and to transfer it in some other direction.

Below the pumping station the bed of the river will be dry for some distance, until enough water accretes from the banks, from the bed, and from tributary streams to renew the flow to some limited extent.

At the pumping station the depth of the water will be reduced from what it was when the river flowed naturally down its bed.

Above and near to the pumping station the velocity of the stream will be increased and its depth reduced, but at some distance, varying with the volume of the water and the depth of the river, the original conditions will be restored.

The quantity of water to be pumped may be at the greatest 20,000 million gallons in a day, and at the least 200 million gallons, but this quantity will not be affected by the presence of the pumping station, nor will the flow of the river be altered even fractionally by the pumping how long so ever it may be continued, but will depend as heretofore on the rainfall in the drainage area.

What is true of pumping from a visible river is true also of pumping from wells sunk into the chalk. In the river the depth of the water is limited, but its flow being only resisted by surface friction the gradient of approach is flat; in the chalk the depth of the well may be great (400 feet or more) but the water having to pass through innumerable small fissures, the resistance to its approach to the well is great, and the gradient of approach is steep, probably 1 in 10 or thereabouts; but whatever the gradient may be it remains constant so long as the vertical distance from the surface to water near the bottom of the well remains the same.

There is an undoubted popular belief, which is not however founded on any scientific data, that the flow of the rivers and streams in Hertfordshire is being gradually reduced in volume, the loss being ascribed to the pumping of the New River and East London Companies.

When, however, it is found that a supposed falling off in the flow of the river Ver is mentioned in monastic times, that Mr. Homersham speaks of the same thing in 1852, and it is again referred to in or about 1864, all being dates antecedent to the pumping of any considerable quantity of water from the chalk basin, some other explanation of the phenomenon, if there be any to explain, must be looked for, and is to be found, in the meteorological conditions of the later period referred to.

Mr. Homersham probably had in his mind some former period of drought, as the year 1852 was near the termination of a period of wet seasons; but the year 1865 came at the end of 12 years of less than average rainfall, and the year 1899 terminated a similar period extending over 16 years.

As the river Ver, for instance, fluctuates in the position of its source by 5 miles, and other rivers fluctuate in a similar manner, though to a less degree, between high and low water periods, it is not perhaps to be wondered at that what happened in 1883, and again in 1897, when these rivers rose at their highest points, is lost sight of, and when some years later the source is miles lower a fear is aroused that what happened in 1883 and in 1897 will never happen again.

Exactly the same fear was felt and given expression to in 1891-2-3, yet its falsity was shown so soon after as 1897; nevertheless, so wedded have the people become to an unfounded belief, that the same story is produced in 1898 and 1899.

Some words of apology are necessary for the length to which this argument has been followed, but as it is desired to show conclusively that the districts from which the water supply of the metropolis is to be drawn will not be injuriously affected by its abstraction, it is necessary to go into the matter in some detail.

Wells in the Thames Valley.

The chalk area in the Thames basin above the intakes of the Water Companies is 1,005 square miles, which may probably be increased to 1,400 square miles by areas which drain on to the chalk. R. C. 1893. par. 99.

Following the figures of the basin of the Lea, where the area contributing to the chalk is 352 square miles, if this area can afford 47 million gallons a day during the driest year, 1,400 square miles will supply 187 million gallons a day; but the rainfall in the Thames Valley is 28·5 inches, or 2 inches greater than that of the Lea, and the yield of the chalk area must be raised in the same proportion to 201 million gallons a day.

The Report of Lord Balfour's Commission says that

R. C. 1893. par. 100. any such abstraction will probably be at the expense of the springs and streams feeding the Thames.

Against this contention it may reasonably be argued that the conditions in the two valleys are identical, and on this basis it can be shown that this or a larger quantity of water is available.

The area of the Thames basin is 3,766 square miles, the average rainfall 28·50 inches, and if the loss by evaporation be taken on the average at 16 inches, the run off should be 12·5 inches; the actual run off is, however, 9·7 inches; there are therefore 2·8 inches of rain on an area of 3,766 square miles, equivalent to a quantity of 422 million gallons a day absorbed into the ground, but which does not find its way into the river, and is therefore available for supply without injury to the river.

On the average of three dry years the rainfall will be R. C. 1899. par. 123. 24·5 inches, and taking evaporation at 14·8 inches the run off should be 9·7 inches; it is, however, about 6·8 inches, therefore 2·9 inches or 437 million gallons a day are available.

During the driest year the rainfall is about 21·00 inches, and taking evaporation at 14 inches, the run off should be 7 inches; it is, however, 4·3 inches, therefore 2·7 inches or 407 million gallons a day are available for supply, and it is shown that the estimate of 200 million gallons daily, derived from a comparison of the Lea Valley with that of the Thames, is a conservative one.

From the Kent Company's district Lord Balfour's R. C. 1893. par. 104. Commission estimated that 27½ million gallons a day may be pumped, and from the chalk area of Kent, outside R. C. 1893. par. 138. the Kent Company's district, 123 million gallons daily.

Besides the areas referred to above, there are others R. C. 1893. par. 106. in Sussex, Surrey, Hampshire, and Wiltshire from which an additional supply might be procured, which would considerably augment the available sources to which special reference has been made and which are—

	Million gallons a day.
From the River Thames	400
From the River Lea	52½
From wells in the Lea Valley	47
From wells in the Kent Company's district ...	27½
From wells in Kent outside the Kent Company's district, say	110
From wells in the Thames Valley	200
Total	837 million gallons.

The sources of supply tabulated above, without taking into consideration those in Sussex, Surrey, Hampshire, and Wiltshire, are therefore sufficient for the supply of a population of nearly 24 million persons with 35 gallons of water per head per diem, and are much more than sufficient to supply the population which, on the basis of calculation adopted by Lord Balfour's Commission, might possibly have to be provided for in the year 1961, or more than 60 years hence.

It is hoped that sufficient has been said to prove that the sources of supply within a moderate distance from London are more than enough to provide water for any population which may reasonably be expected to be congregated within the Metropolis, while providing amply for the requirements of the areas other than those above the intakes of the Companies, from which the supply will be drawn.

When the population to be supplied numbers, say, 15 million persons and is still growing, it will be time enough to consider whether an additional quantity of water should be looked for from Sussex, Surrey, Hampshire, and Wiltshire, from Wales or elsewhere.

It has been shown that the population above the intakes of the Water Companies will not be injuriously affected by the requirements of the Metropolis, however large they may become, while the interests of the inhabitants within the area of supply and to the eastward of the intakes are safeguarded, along with those of Metropolitan London itself.

It can be proved conclusively that the bringing from Wales of water of different quality, but no better than that which can be be provided from the neighbourhood of London, would be very much more costly than to extend the sources already brought under contribution, while it seems more reasonable to use up the nearer supplies first, rather than to go for a limited supply to Wales and then be obliged to supplement it from the Thames and from wells afterwards.

I cannot but feel that the paper I have ventured to submit to your suffrages is inadequate, that it is already long, even to the extent of tediousness, and yet I have been obliged to omit much of the proof from my arguments. I believe, however, that the more this momentous question is investigated in a spirit of pure research, the more fully will the conclusions which I have submitted be confirmed in all their bearings.

Mr. A. G. RICKARDS, Q.C. (Associate), said he felt great pleasure in proposing a vote of thanks to Mr. Middleton for his Paper which, considering the shortness of the time at the author's disposal, he regarded as a most exhaustive one. But it was of such importance and contained so many intricate statistics and calculations, dealing, moreover, with a subject so many-sided, that it was quite impossible to discuss it adequately without having first an opportunity of carefully considering it. He therefore proposed to simply confine himself to moving a hearty vote of thanks to Mr. Middleton for the great service which he had conferred on the Institution by reading his interesting and able Paper, and he looked forward to the discussion which it was sure to elicit.

Mr. H. LOVEGROVE (Fellow) said he had much pleasure in seconding the vote of thanks to Mr. Middleton, but he feared that, while he knew very little about the subject, he could hardly agree with some of the conclusions arrived at by the author.

He quite agreed that the question of the future water supply of London was one of the greatest importance to the inhabitants of the Metropolis, and would become more and more so if the population were likely to increase in the proportion set forth in the Tables which the author had quoted. But would it continue to increase in the same ratio? The birth rate was certainly not increasing, while on the other hand the inpouring from country districts to the Metropolis still went on.

Regarding the water used and returned to the river, as mentioned in the Paper, it was very important to consider how it was returned and in what condition. Some, no doubt, percolated, in a more or less purified condition, through the gravel soil and so got back again in a state fit for use, but much of the water drawn from the Upper Thames was returned mixed with sewage, to the river at Barking and Crossness. He hardly agreed with Mr. Middleton that breweries and manufactories used a very small proportion or that "practically the whole of it is "returned to the rivers, as the small quantity which is "carried away in steam and in beer, &c., forms such "an infinitesimal proportion of the whole that it may "be ignored." He should have thought that brewers especially must take away a very large quantity in the ultimate form of beer.

He was personally very averse to the use of the Thames as the chief water supply of the metropolis, although chemists asserted that the water was absolutely pure. He could look back to the time when, in 1865 or 1866, he acted as junior on a survey of the River Thames, and he remembered the leading surveyor on that occasion noting very carefully the foul state of the river at different points. Very copious notes were made on the state of the water—for instance where the Kennet ran in at Reading and at the backwater at Windsor, which was extremely foul. That was 35 years ago and the population along the banks of the Thames had very largely increased since then.

Then, again, of late years other sources of contamination had come into action. The purity of the River Thames could hardly be improved by the large summer population of the house boats, and there were still other sources of pollution.

Glasgow, it seemed to him, possessed a model water supply. From Loch Katrine pure water was carried to the city by gravitation, which could not be done in the case of London. Although the waste was great, still the supply was pure. But the matter of waste could be dealt with by the local authorities if they would see that the fittings were always in good order.

He was surprised to hear from the Paper of the lavish supply of water in Paris. He had thought that the Parisians were very careful in their use of water, and he even heard dreadful rumours last summer of Seine water being used to augment the ordinary supply; a course which one could imagine would send up the death rate by leaps and bounds.

Mr. W. WHITAKER (Visitor) said the question of the London water supply was a peculiar one, for London was placed in an exceptional position. No other very large town in the kingdom obtained its supply, as London did, from its own watershed. Other great towns had been obliged, as they grew, to go far afield for their water. He considered London fortunate, so far, in having been able to get its supply from a comparatively short distance.

On page 73, Mr. Middleton struck what seemed to him (Mr. Whitaker) to be the keynote of this question, where he said: "If, however, it can be shown that the "same sources of supply which have been sufficient in the "past, can, if adequately guarded and under proper treat-"ment, be made sufficient for the future, &c." That was the gist of the whole matter. Such a supply as was afforded by the Thames depended for safety on being *adequately guarded.* But the difficulty was that the guarding of it was in human and therefore not infallible hands. Opponents of the Thames scheme of course claimed that they advocated the drawing of the supply from some source which did not want so much "adequate guarding."

On page 74 the author referred to the chalk area of

Kent. He (the speaker) thought Kent was able to supply itself, even allowing for increase of population, and could possibly afford to spare something for its neighbours.

When one had to deal with the water supply of Essex one got on to very debatable ground, for it was often most difficult to get water in Essex. Sometimes when water was obtained it was hardly worth the trouble of getting. Essex must, he thought, always depend for water on well supply, except in the valley of the Lea, most of which would be included in the metropolitan area. He noticed that Mr. Middleton said with regard to the county of Essex, "It will suffice if 100,000 be " added to the population in 1961, to meet any calls in " this direction," but he remembered a certain Bill in Parliament not very long ago which applied to Essex and nothing but Essex outside the London area, and which provided for a supply of 14,000,000 gallons a day long before 1961. That meant of course a good deal more than 100,000 extra people. But, after all, figures were susceptible of a good deal of distortion and of being viewed in many different ways. One man would consider the minimum sufficient, while another would provide for the maximum, and the difference between minimum and maximum in this question of water supply was often a good deal larger than the minimum itself.

On page 79, Mr. Middleton dealt with the question of waste. He thought he need not go so far as America or even to Glasgow or Paris for examples. He believed this question was one of the most important that could be considered in connection with the adequacy of a water supply. There was a very great deal of preventible waste in London and many of our large towns, and he considered that the present allowance in London of 35 gallons a head was excessive, and must include a great many gallons that were absolutely wasted. It was deplorable that such waste should occur, and it behoved the authorities to do everything possible to stop it, and if they had no means of doing so to seek enlarged powers. He agreed with Mr. Middleton that a much less quantity had been shown to be quite enough in most large towns. He lived, some 18 or 20 years ago, in a town where water was supplied at the rate of 100 gallons per head per day. The authorities thought they had done a very clever and economical thing when that quantity was reduced to 60 gallons a head, but, though extravagant in the matter of quantity, they would not spend a halfpenny to improve the quality of the water, which was bad. They did not mind what they spent on pumping, but they could not see the necessity of securing a supply of a purer quality. He might mention that this same town had since experienced two epidemics of typhoid.

Later on, the author said, "Should the undertakings "be tranferred to a Trust as recommended by Lord Llan-"daff's Commission it is certain that waste would be put "down with a strong hand," and it seemed to him that this formed a strong argument for giving the control of water to a public body. He believed that this was a point to which the Water Authorities must pay serious attention in the future, even at the cost of incurring unpopularity by enforcing more stringent regulations.

In the Paper, the drainage area of Wales was compared with that of the Thames Basin, but as the author said further on, mere area was not enough to go upon; the rainfall must also be considered. Then it must be remembered that the area of the Thames was not like that of the Welsh rivers. The Thames had to answer purposes other than water supply. The Welsh rivers, or some of them, were comparatively little used: there might be a few mills, and some fishing rights and so on, but the Thames was not only a river but a great water park, or recreation ground for the teeming population of the largest city in the world, and he must say that he regarded that fact as having a very important bearing on the water supply question.

Reference was made in the Paper to "the arguments "which have been raised against the continued use of "the Thames and the Lea," but he was not sure that this put the case fairly. Very few persons advocated the entire abandonment of the use of the Thames and the Lea; the arguments were rather against an extended than against a continued use. The point was that it was not advisable to depend on the Thames and the Lea for much more than they at present yielded, and it was not suggested that an entirely new supply should be sought and the present source altogether given up. That he thought would be rather outside the range of practical politics.

With regard to organic impurities contained in the water, some impurities existed of course in all water, more or less, but he took it that the author would admit that more serious impurities were found in rivers which flowed through populated districts than in streams flowing through mountainous or agricultural areas with but sparse populations.

Everyone would agree with the suggestion that the existing divisions of the country into counties, unions, and parishes could well be replaced, for sanitary purposes, by drainage areas. The existing boundaries were not laid down on any scientific principle.

In the case of the reservoirs at Staines and elsewhere it was of course not alone a question of area which had to be considered. If the engineers chose to deepen their reservoirs they would require less superficial area. It was for them to calculate the cheapest and most suitable modification of area and depth under all the circumstances of each case, and he felt sure that such skilled engineers as Mr. Hunter and Mr. Middleton might be trusted to take every advantage of the nature of the situation and surroundings in laying out their plans.

The two Royal Commissions referred to in the Paper were not by any means the only Royal Commissions on London Water Supply, and it seemed to him that the time had almost arrived when another was due, as it was unusual for a long time to intervene between them. He had heard of a good many Commissions and had given evidence before some of them, but he had never learned that anybody was much the better for the Commissions.

As to the River Lea, he noticed that the author said that during the driest of the three years, 1897, 1898, and 1899, the average flow was 42·3 millions, which was, he thought, getting very dangerously near the limit of the Water Supply, for it was then stated that during this particular year 47 million gallons a day were pumped. Of course that was dependent on an underground reservoir in which nature afforded some compensation between dry and wet years.

The author said further on: "There is a quantity of "57,240,000 gallons a day which passes down through "the chalk basin and does not find its way into the

" visible river." But he (the speaker) wanted to know where it did go to. It must go somewhere. It could not be bottled up. If it did not go down to the river it must come out of the springs higher up or go to the sea, although he did not know how it would get there. The ultimate destination of this water was a very curious question. It was certain that only a small proportion reached the wells, and this led him to note that a calculation based on the quantity going into the chalk did not always bear any marked relation to what was got out of it. One could estimate the quantity that went in, but the quantity that could be got out was sometimes only a mere fraction.

He noticed that Mr. Middleton spoke of the area of absorption. This was another point on which he would like a little enlightenment, and he was not sure that the author meant what he appeared to convey when he said in the Paper, "Continuance in pumping will not extend " the area of absorption, which will only vary from " season to season with the level of the water in the " surrounding strata." If he understood the meaning rightly, he should be inclined to substitute for "the " area of absorption" the term "area of depletion."

It was very curious to note the persistence of the belief that the flow of rivers and springs was decreasing. He supposed it was in the nature of humanity to think that things in the past were always better than at the present time. One heard on every hand allusions to "the " good old times," and phrases of the sort, which when examined were found to have little real meaning; but still there was, he thought, some evidence of a decrease of rainfall in late years, and also of decrease in streams.

Speaking of the Thames, the author said, "but "the rainfall in the Thames valley is 28·5 inches, or 2 "inches greater than that of the Lea, and the yield of "the chalk area must be raised, in the same proportion, "to 201,000,000 gallons a day." That, he took it, was not the yield of the chalk area, but the amount that went into it, and he would be glad if anyone could tell him of a scheme to get one-half of that quantity out again.

On page 97, Mr. Middleton said: "When the population "to be supplied numbers, say, 15 million persons "and is still growing, it will be time enough to consider "whether an additional quantity of water should be "looked for from Sussex, Surrey, Hampshire, and Wiltshire, "from Wales, or elsewhere." He was afraid that Surrey had no water to spare for a supply outside the county, for the area of chalk was not particularly great, while the population was large and increasing as well as somewhat pugnacious regarding its water rights.

He thought that for an extension of the London supply it would soon be necessary to look to areas outside the Thames Basin, and that any great scheme would have to help the smaller ones, for smaller places.

He heartily agreed that the more the question was investigated in a scientific and critical spirit, regarding all the circumstances of the case from every possible point of view, the better would be the chance of a practical solution.

Mr. HOWARD CHATFEILD CLARKE (Fellow) asked to be allowed on behalf of Professor Henry Robinson, who was not able to be present, to move the adjournment of the discussion to the next Meeting.

He could not look at the Paper from the point of view of an engineer, but as an architect he was able to appreciate its high value, and he desired to join heartily in the vote of thanks which he was sure the Meeting would accord to the author for the service he had rendered to the Institution in preparing and reading so useful a Paper.

The vote of thanks having been put and carried unanimously, the further discussion of the Paper was then adjourned to Monday, January 14th, 1900.

AT

THE ORDINARY GENERAL MEETING,

Held on Monday, January 14th, 1901.

JOHN SHAW (President) in the Chair.

The discussion was resumed on the Paper read at the last Meeting by R. E. Middleton, M.Inst.C.E. (Fellow), on "The Future of the London Water Supply."

The President, before calling upon Professor Robinson to resume the discussion, asked the Secretary to read the following communications.

From Mr. J. SHAW, Boston.

The immensity of Mr. Middleton's subject and the array of facts and figures make it difficult to discuss, and another Paper equally long might be given without exhausting the subject. The population and the amount of water per head to be supplied have increased by leaps and bounds during the last quarter of a century, and while believing that with a supply of 30 gallons per head there is at least 10 per cent. of preventible waste, water consumers seem to have made up their minds that a prodigal and extravagant use of water shall take place, and the water engineer of to-day, while he may guide the current, can do but little to push back the rate of consumption to what it was 25 years ago.

During the same time the quality of the London water, both the "raw" and the "finished" material, has enormously improved. The sanitary improvements in the towns and villages above the intakes of the companies, and the beneficial results of the supervision of the inspectors appointed by the Thames and Lea Conservancy Boards, have improved the raw material out of all proportion to the slight deterioration which increase of population in the district has tended to, and the improvements in the working of the filters have provided a very high-class water.

I agree with the author in regarding the River Thames as the "sheet anchor" of the London water supply for many years to come, and believe that much may be done by means of another weir below Richmond, tidal reservoirs, and other engineering works, to lessen and remove the evils to navigation and other interests, from a much smaller quantity passing over Teddington Weir than, say, the minimum daily quantity of the last two years.

The Lea, although probably good for the quantity placed against it (52½ million gallons), must be approaching the limit of its capabilities, and with the completion of the storage already sanctioned will, in its lower reaches, probably become a regulated discharge from the East London reservoirs for the greater part of the year, but there is just room for a modest doubt whether in three dry years it will be possible at the same time to take 47 million gallons per day from wells in the Lea Valley.

The question as to whether the water in the chalk exists as in an underground reservoir or a subterranean river is still undecided, for while it is true that the water in the chalk is almost invariably in motion, flowing generally in the direction of the "dip" to some outlet—it may be the sea, a spring, or a deep well—it is also true that the rate at which it travels is not governed by this dip but by the size of the various fissures in which it may travel, and the difference of head between the spot where the rain reaches the saturation level in the chalk and that at which it leaves the strata at such spring or well. A well sunk in a favourable position whose shaft cuts large fissures below saturation level will yield a very large quantity of water, while another sunk where such fissures are small or altogether absent would require some thousands of feet of underground tunnel to give the same yield. The depression of the water level caused by heavy pumping might be apparent a mile from the former well, whereas, in the latter, such depression would be non-existent a very few yards from the line of tunnel.

To apply this to the Lea Valley: "once upon a time," when no water was drawn from beneath London, the rain falling on the Hertfordshire hills sank down to saturation level, and flowing towards the lower levels issued as strong perennial springs in the Lea Valley between Hertford and Broxbourne, the water in the chalk under the London clay being practically stagnant, while in the upper part of the valley, above, say, the 120 feet level, seasonal springs issued into the river, running probably more strongly than at the present day, but varying much in their yield between a wet and a dry season. The wells sunk in the London basin would cause a gradually increasing flow from the chalk all round the metropolis, and the removal of water of "cisternage," caused by the supply being less than the demand, would cause a depression under London, a gradually increasing head, which at the same time would pass a gradually increasing quantity of water from the open to the covered chalk. Again, the sinking of wells and the drawing of large quantities of water from the open chalk must cause a certain increased declivity towards these wells as compared with their natural exit at a spring at, say, 100 feet higher level.

While it is possible that in wet seasons 100 million gallons per day might be pumped from wells in the Lea Valley without injuring the river, a comparison of the Lea Valley between Ware and Broxbourne in the autumns of 1874 and 1898 may be instructive. Both were dry years. In 1874, Chadwell spring and the springs between Ware and Hoddesden were running a fair quantity, but very little water was passing the mill at Ware, the New River taking practically the whole flow of the Lea through their intake at King's Mead. Over Field's Weir the gaugings never fell below 13 million gallons per day, which with the quantity taken by the New River Company made a natural flow over the weir of at least 35½ million gallons per day.

In 1898, Chadwell spring failed and was turned into a "swallow hole," the water on one occasion running into it from the Lea, and many of the other springs were dry ; 6½ million gallons per day were being sent down the Lea past Ware to assist the heavily handicapped East London Company, but in spite of this help the flow over Field's Weir was only about half that of 1874. When to this is added that the wells in the Lea Valley were being pumped to the extent of less than 40 million gallons per day for one or two days, and may have averaged less than 35 millions per day as against, possibly, 5 millions at the most in 1874, an inference may be drawn whether the natural flow of the Lea was affected by the pumping, and whether conditions would not have been altered for the worse by drawing 25 per cent. more water from wells in the Lea Valley. The writer is convinced that 47 millions from wells in the Lea Valley could only be obtained by inconveniencing part of Hertfordshire, unless storage reservoirs were constructed to utilise some of the surplus water from the wells during the wet winter months.

I regret that space does not permit me to discuss the probability of Kent, east of the Medway, requiring practically the whole of its water, and having little to spare for London.

From Mr. J. A. PASKIN, of Halifax.

I have had great pleasure in reading Mr. R. E. Middleton's Paper on the above subject, kindly sent for my perusal, and had hoped to have been present on Monday, but find it impossible. I therefore forward a few observations and remarks I would venture to suggest might, if thought suitable, be laid before the meeting.

Taking the population at 15 millions in 50 years time, they at 30 gallons per head per day would then require 450 million gallons per day.

The drainage area of the Thames Valley above Hampton is about 3,500 square miles.

From *Beadmore's Manual of Hydrology* (page 200):

Thames at Staines 3,086 square miles drainage.

Mean flow - - - -	100,000	cubic feet per minute.	
Ordinary summer - -	45,000	,,	,,
Minimum - - - -	35,000	,,	,,
Maximum - - - -	400,000	,,	,,

450 million gallons per day is equal to 50,000 cubic feet per minute.

Storage should be made for 150 days' supply, or 11,000 million cubic feet.

Take the depth at 30 feet, the various reservoirs would cover 8,500 acres, or $\frac{1}{264}$th part of the entire drainage area.

From this can be taken the capacities of the existing reservoirs.

The reservoirs to hold the total quantity need not be started at once, but in five separate series at intervals of ten years each.

The advantages of the Thames water for the supply of London are several.

1st. It is using the rainfall in the drainage area of the Thames, the natural supply for London.

2nd. The drainage area and rainfall are sufficient for the next 50 years at least.

3rd. It is the water that the inhabitants have been accustomed to use, is perfectly wholesome, and from its hardness has no action on lead.

4th. The cost compares favourably with the water from Wales, no long aqueduct being required (about 150 miles), a saving of 8 to 9 million pounds.

5th. The construction of the large reservoirs would prevent the heavy floods, so disastrous to the Thames Valley. The present lands liable to flooding could be used as sites for the reservoirs.

The Disadvantages of a Supply from Wales.

1st. There is not the same drainage area to deal with as in the Thames Valley (to flow by gravitation), but three times more rainfall could be relied on in depth.

2nd. The storage capacities of the reservoirs would have to be the same as those in the Thames Valley, but of less area, as the depth of water could be greater.

3rd. The water coming from a peatty gathering ground holds a great amount of acid, and if not treated chemically (which is always an objection for drinking water) would have a very strong action on lead, and cause lead poisoning, now unknown in London from Thames water.

4th. The water could not always be kept colourless, and Londoners would very much object to see a slightly tinted yellowish or brownish water in their bottles.

The discussion was then resumed by

Professor HENRY ROBINSON (Fellow), who said he would confine his observations to one point, which was the crux of the whole case, viz. the utilisation of the River Thames for the future water supply of London by means of storage reservoirs in natural valleys instead of the system advocated by the author, which was that of storing in artificial reservoirs.

He was, and had been for many years, of opinion that the right way to deal with the water supply of London was by the construction of impounding reservoirs in the natural valleys of tributaries of the Thames, and he would just put into shape a few figures for convenience of reference.

In the Reports of Lord Balfour's Commission and also in that of Lord Llandaff's the scheme of artificial reservoirs which the author advocated was based upon taking 300 million gallons a day from the Thames for supply, leaving 200 millions minimum over Teddington Weir, and the storage—*i.e.* the artificial reservoir—required to carry that into effect had been agreed in both the Reports of these Commissions to be 17,500,000 gallons. The Companies and the Staines Committee, with their existing or proposed works, could take 185½ millions, leaving 114½ million gallons to be taken in the future, making the total of 300 million gallons he had referred to. Of the authorised amount, the Staines Reservoir, now in course of construction, would store 3,300 million gallons, at a cost of about 1¼ millions, which worked out at £378 per million gallons of water stored.

In Lord Llandaff's Report it was stated that the cost of works to complete the storage of the remaining 114½ millions (making up that 300 million gallons) would be from £9,000,000 to £10,000,000.

Another point in the author's Paper was that if, in the year 1931, 415 million gallons were required for the supply of the larger population of London it would involve a storage of 45,000 million gallons. He was giving these figures for convenience of reference. Those who were interested in the matter would have the opportunity of studying them, and would see the bearing they had on what he had to say in regard to the system of natural valley reservoirs.

Some years ago he investigated, for the Water Companies, the question of the future water supply of London, and he came to the conclusion that the solution of the problem would be found in constructing impounding reservoirs in certain natural valleys and tributaries of the Thames. He laid his views before Lord Balfour's Commission, and before referring to some points in connection with that, which he thought would interest the Meeting, he would give a few figures that had an important bearing on the subject.

He estimated, from the most careful observations and the most reliable data, that storage reservoirs could be constructed on tributaries of the Thames to which the following figures would apply. A storage reservoir for 15,000 million gallons could be constructed at a cost of £850,000. A storage reservoir for 55,000 million gallons could be constructed at a cost of £1,640,000; and by the construction of a reservoir of that magnitude a flow in the Thames could be maintained of 600 million gallons a day—200 million gallons for the weir, and the before-mentioned 300 million gallons for the Companies, leaving 100 million gallons for future development. He also went beyond that, and by a modification of the arrangement of works he could, at a cost of £2,400,000, give a flow of 700 million gallons a day in the Thames.

Those figures had been arrived at within the last two years, since Lord Balfour's Commission sat, and they could be taken as capable of being proved at the right time and in the right place.

He would just go back, if he might be allowed to do so, to Lord Balfour's Commission. When he brought his proposals before the Commission, the geological survey of the Thames Valley was not favourable to the construction of impounding reservoirs. If the geological mapping had been correct, the valleys he had in his mind would not have served for storage. At the time he investigated this matter he had information which he had been collecting for several years which led him to the conclusion that the geological survey was wrong. Engineers were constantly engaged in checking the geological survey maps by the aid of information which was available since the preparation of those maps. At the time that he was engaged in his investigations for Lord Balfour's Commission, the Thames Valley was being remapped by the Survey Department, and when he pointed out to the geologist who was engaged on the work that there were beds of clay underlying the valleys that he had in his mind, he found that his views were agreed to by the geologist.

Now he would come to the Commission. One of the members (Sir Archibald Geikie) was not satisfied with the views put forward as regards the existence of impervious beds in this district, and this naturally threw doubt on the whole matter.

He might say that, besides geological difficulties, two other diffiulties were raised by the Commissioners—one being the "flow-off" (as the author called it). He was asked by one of the Commissioners if he had gauged the stream he proposed to impound, but he pointed out that the Duke of Richmond's Commission, many years before, laid down a well-known figure, and it was not necessary to gauge the streams.

Another point was that the water he would impound would be at times flood water, and in Lord Balfour's

Report it was stated that flood water was highly objectionable and undesirable. So it would be seen that there were three difficulties raised to his proposals, but the 10 years that had elapsed had enabled them to be removed. Subsequently to the issuing of the Report he had instructions to pursue his investigations, and he put down a series of trial holes over a very large area in the Thames Valley, and he had proved (and that proof would be available in the right place and at the right time) the existence of solid clay over the whole of the areas—not only under the valleys, but also at the sides of the valleys, making them perfectly watertight. If the Members would accept that from him in good faith it would be seen that the first difficulty disappeared, and that he could make watertight reservoirs for the figures he had already given.

Next as to the flow-off of those watersheds. He was fortunate enough for a long period of time to have had gaugings taken of the streams in those valleys right to the end of 1898, in the September of which year it would be remembered that the minimum flow of the Thames fell to only 42·3 million gallons, instead of a minimum of 200 million gallons, so that his gaugings of the streams at this time of exceptional drought were of value, and enabled him to base his calculations as to storage on data which included this period.

The third point he mentioned was that flood water was objectionable and undesirable to store. He might point out that in the valleys that he had in his mind the water flowing off those gathering grounds would be much more free from possible contamination than would be the water passing into the main channel of the Thames. In the interval that had elapsed since Lord Balfour's Report much had been learnt with reference to the purification which is effected in large reservoirs. Lord Llandaff's Commission reported (unlike the previous Commission) that no restriction need be placed on taking flood waters. Evidence had accumulated in the last few years, and so much had been learnt since 1893, that it was now practically agreed that flood waters could be taken into large storage reservoirs and left to the discretion of those in charge to deal with them at certain times. So it would be seen that he had disposed of the third objection originally raised to his views. His views at the present time were precisely what they were ten years ago, confirmed by his subsequent experience as well as by that of others, and he was convinced that the solution of the London water question would be found in storing water in natural valleys. The author had, however, referred to this in the Paper in very brief and unfavourable terms.

He would read a passage from Lord Llandaff's Report (page 43): "No site was suggested to us where the " water of the Thames, when it is in flood or high, could " be taken by gravitation and without pumping into " storage reservoirs. If such a site could be found, free " from serious obligations as to supplying compensation " water, it would present a double advantage—the cost " of pumping to store would be saved, and it would be " possible to take much more water into the reservoir " when the river is full, as the intake would not be " limited by the capacity of the pumps, which cannot " deal with more than a fraction of the water passing " down at times of flood. The problem of keeping up " the supply of water without interfering with the river " when it is low would be materially simplified by such " a gravitation intake." That was Lord Llandaff's opinion as to the desirability of doing what he (the speaker) was advocating.

Summing the matter up in a few words, if what he was saying was right, and, as he had said more than once, he could prove it up to the hilt by any amount of evidence which he could adduce, what would be the effect? He should not be saying this if he did not think he was speaking in the interest of Water Companies, for they had been his clients, and he should be the last to advocate anything unfavourable to them; but if his proposition was feasible, and he could preserve, as he certainly could, an uniform flow in the Thames in dry weather, then it was obvious that the existing pumping plant could be utilised to much greater advantage, instead of having to cease pumping at the minimum 200 million gallons flow.

The present storage would also be much more effective and much more useful for the future population. It would also, of course, improve the river, and the Conservators would obviously favour such a scheme. Instead of the flow dropping down below 200 million gallons it would be maintained, and the river, *qua* river for navigation purposes, would be benefited, and its hygienic condition greatly improved. The water brought down to the intakes from his storage reservoirs would be freed from sediment, and the water pumped at the intakes being in much better condition, the filter beds would be less taxed, and both the Water Companies' interests and the river's interests would be served. It was also to the interest of the Water Companies that this scheme should be adopted for another reason, because when it came to a question of purchase, when a Water Board was formed (which probably would be the case this session or next session) to deal with this great question, it would be found very much to the interest of the Water Companies if they could point out that by an expenditure of, say, £2,000,000 they could do very much better for themselves and for the public for the future, both immediate and remote, than by the expenditure of five times that amount. Obviously it would be to their interest, and he had no hesitation in saying in the words of the author in the last paragraph of his Paper, "The more this momentous question is "investigated in a spirit of pure research the more "fully will the conclusions which I have submitted "be confirmed in all their bearings." He had not dealt with several other matters which the author had referred to, and the quotation just made might apply to them, but in respect of what he had dealt with in regard to the future supply of London from the Thames, he would say that the more the matter was investigated by men of intelligence and common sense, either directors of Water Companies or members of the future Joint Board, the more it would be found that what he (the speaker) had suggested was the true solution of the question, as he was fully prepared to prove.

Mr. H. H. Statham (Visitor) said he would ask permission to say a few words with reference to what he considered the totally inadequate ideas of engineers as to the amount of water, per head, required for a city like London: a matter of the highest possible importance from a sanitary point of view. The fact that at the present day we had a necessary of life like water served out to us by private companies, whose interests were the shareholders' and not those of the public, was he considered, an anomaly; and he feared that water engineers had, under that influence, acquired the habit of thinking of water as a commodity to be dribbled out in the smallest possible quantities, and the problem seemed to be not how much water could be given to the people, but how little they could be screwed down to. A very striking example of that habit of mind was contained in a letter from an eminent engineer which appeared not long ago in the *Times*, in which it was seriously said that if only proper care were exercised the necessary supply could be reduced to 25 gallons per head. Such a statement really seemed to belong to what he might call he "antediluvian" period, when people took baths on Saturday night only.

When, many years ago, he first came to London, he consulted one of the first physicians of the day as to how he, who had never before resided in a town, could best keep in health in London. He received two valuable pieces of advice; one to get out into the country for a day from time to time, and the other to get *into* water every morning. The physician was emphatic on that; he said, "People do not understand baths. It is total immer-" sion that has the real effect." That was the most useful advice he ever had from a doctor, and he had followed it ever since with most beneficial results. He had a full bath every morning, which he supposed some persons would call waste of water, for the other day he measured his bath (an ordinary bath 5 feet 6 inches long by 1 foot 11 inches wide), and he found that the quantity of water necessary for total immersion amounted to 60 or 70 gallons. What then became of Mr. Middleton's 35 gallons a head? But leaving out those persons who practised total immersion, and taking only the statistics of the use of water in an average poor class house in England, he was confident that it would be found to average far more than 35 gallons a head. He considered 50 gallons per head the least that ought to be contemplated. It might be objected that an enormous number of people in London hardly used any water for ablutions, and therefore the average was sufficient to supply the overplus for the upper classes. He considered that a most immoral argument. It was as much as saying that, because the lower classes were dirty, they were not to be given any water. As education progressed from decade to decade, it would be found that the people would learn more about the conditions of health, and would understand better that a free use of water was desirable, and then, as the years went on, they would want more and more.

Another word about the question of waste. It had been said that if the water supply were in the hands of a public body, consumers would be far more severely drilled than they were by the Water Companies. He thought not, because the administration at all events would not have the same interest in stopping waste of water which the Companies had. The town of Birmingham supplied both gas and water, and the Mayor of Birmingham in a recent speech said, "We endeavour to "run gas at a profit, but we do not endeavour to run "water at a profit, because that is a necessary of life, which "ought to be supplied as copiously as possible to every-"one," and that he thought was the common sense of the matter. But where there was house to house visitation there would always be a feeling of irritation among consumers. The minor officials who carried out the investigation were always in a hurry. They wanted to show themselves to be energetic officials, and the simplest way of doing so was to report that everything was wrong —he was speaking again from personal experience.

When his water company put on a constant service they sent him a list of half a dozen things that were to be renewed, but on his objecting they sent a superior official, who was obliged to admit that out of their six demands four were totally uncalled for.

What was the remedy for such a state of affairs? Supply by meter. The annoyance of house to house visitation would be avoided, and everybody would pay for what he used. The only objection he knew to the system was, that possibly the lowest classes, when they found that water must be paid for according to the amount used, would be still dirtier and avoid washing altogether. That might perhaps be met by rating those only who paid a low rent, and adopting the meter service for more highly-rented houses. But service by meter was the most effectual and logical method of checking real waste. By waste he meant allowing water to run away without use—not the copious use of it, which might not be waste at all.

To conclude, he would like, as he had said, to see water regarded as a thing to be supplied not as sparingly as possible but as copiously as possible, and this was even more important in a great crowded city like London than in small places. He thought that those American towns which had been quoted as supplying 100 or 140 gallons a head, so far as from being wrong, were in advance of us in their notions of sanitation, and instead of scoffing at them, the best thing we could do was to try to follow their example as nearly as possible.

Mr. R. Hassard (Visitor) said that he ventured to speak as the originator and designer of the scheme for bringing water from Wales to London, and delivering it by gravitation at both the north and south sides of the City up to a level of 300 feet above ordnance datum, to the initiation of which no one else had the slightest claim or title; and as Mr. Middleton in his Report had rather criticised that scheme, he should like to make a few remarks on the whole question of the future water supply of London.

He proposed to confine his observations almost entirely to the quantity of water which it was necessary to provide in future, the quality of the water, and the cost to the consumer.

With regard to the quantity of water to be provided, say, in 50 years from the present time (1951), that would depend entirely on the population. He had carefully gone through the various estimates in the reports of the Royal Commissioners and others as to the probable amount of the population at that date, and he found that it had been variously estimated at from 15 millions to 30 millions. He thought those figures were entirely illusory, and that the population in 1951 could not possibly amount to more than 12 millions, if indeed it reached that number.

That population, at 35 gallons each, would require a supply of, say, 420 millions gallons daily, and the Welsh scheme was fully able to afford such a supply.

As regards the quality of the water, he thought water such as that now supplied to London, and which the author proposed should be supplied in the future, of 17 or 18 degrees of hardness, was not at all suitable for the purpose. In Wales the water was very soft—about two degrees of hardness. He did not himself advocate the use of such soft water as that. He thought water with a moderate degree of hardness was more pleasant to drink and was equally suitable for trade and manufacturing purposes, and in his Welsh scheme he proposed to incorporate with the soft water about 30 million gallons daily of that most beautiful water found in the district of the Cotswold Hills, at the west end of the Thames drainage valley. The whole country there abounded in water, but owing to the very porous nature of the oolite, he agreed with the statement in the Report of Lord Balfour's Commission that on those valleys there were not proper sites for the storage of water, but the 30 million gallons that he proposed to take would be at such an altitude that it could be carried by gravitation, without any storage at all, to London. As to the possibility of finding sites in the Thames Valley suitable for the construction of impounding reservoirs he would say a few words later on.

The engineer to the London County Council, when he took up the scheme, eliminated those 30 million gallons of oolite water, and proposed to supply the same quantity from an enlarged area in Wales.

In the whole of the country to which he had referred the most beautiful water abounded, and to give an idea of the copiousness of some of the springs, he might mention that on the 17th August, 1892, he gauged a small cluster of springs arising below the village of Bibury, on the River Colne. A very short distance below where the springs come to light there was a well-built weir, and that single cluster of springs was running a little over 14 million gallons daily, in a year when the rainfall of that locality was 20 to 26 per cent. below the average.

The water he proposed to introduce to London would be about five degrees of hardness, and a more pleasant water for potable and culinary purposes, or a better water for all trade and manufacturing purposes, it was impossible to procure. Leaving aside the question of sewage pollution, hard water, after careful filtration, might be perfectly wholesome, but doctors averred that some diseases were aggravated by hard water, and that in the cities and towns where hard water was replaced by soft these diseases had disappeared.

As to the cost of water to the consumer. The Welsh scheme was estimated by the London County Council engineer at £38,800,000. The estimate was verified by Sir Benjamin Baker and Mr. Deacon, whose figures agreed very nearly with his own.

If the population of London amounted in 1951 to 12 millions, that would represent a capital outlay of £3 4*s.* 6*d.* per individual—not a very heavy charge—only about the same that had been incurred for Liverpool, Birmingham, and Manchester of late years.

The original outlay for the supply of London would be about £91,000 or £92,000 for each million gallons daily. The Birmingham and Liverpool supplies varied between £90,000 and £100,000, so there was no excess of cost in the London proposal. If the £38,800,000 were borrowed at 3 per cent., to be paid off in 50 years, then at the end of the 50 years of course the whole payments in respect of capital would have ceased, and the water would have been delivered to the consumers of London at about 2⅓*d.* per thousand gallons. If the money were borrowed at 2½ per cent., it would represent about 2¼*d.* per thousand gallons. Therefore the idea, so persistently spread abroad, that the Welsh scheme would involve a ruinous taxation and expenditure that would be totally out of proportion to the population it would serve, was quite unfounded.

Mr. F. T. Vernon-Harcourt (Visitor) said he fully agreed with the author of the Paper that this question was a very momentous one, but he hardly thought that he had treated it quite "in a spirit of pure research." It was principally a somewhat biassed argument in favour of the Thames as against any other source of supply, and even on the same page on which he advocated a spirit of pure research the author said, "It can be proved "conclusively that the bringing from Wales of water "of different quality, but no better, than that which "can be provided from the neighbourhood of London, "would be very much more costly." Now whatever other defects there might be in the Welsh scheme, he did not think anybody could say that water from Wales would not be preferable in many respects to water from the Thames. There might be some disadvantages, but at least it would certainly be purer than water which (irrespective of sewage pollution) getting a good deal of chalk from the springs, had, as the last speaker said, an excess of hardness which might be pleasant, but which lessened its value for many purposes. Water from the Kent Company's wells, for instance, had a degree of hardness which certainly was not desirable.

Then Professor Robinson mentioned that there were some valleys in the Thames basin which could be used for impounding reservoirs. He did not know which valleys might be referred to, but he had occasion many years ago to survey some of the tributaries of the Thames, in fact all the tributaries above Oxford, and he found very few of them, irrespective of geological considerations, which would have been really satisfactory for impounding reservoirs on account of their small fall. There was one exception certainly, and that was the River Cherwell, which flowed in at Oxford, and that river on the upper part of its basin certainly had a considerable fall. What its geological suitability might be he did not know, but there were a great number of mills on this part of the river, and the owners would have something to say with regard to impounding reservoirs in that district.

He agreed with the author as to the question of waste, and he thought that preventible waste—not waste which consisted in having baths, but waste caused by people allowing their taps to run continuously without looking after them—ought to be stopped, and if this could be done he should imagine that, taking London as a whole, 35 gallons a day per head would be a very fair allowance.

The question of population seemed to be a difficult one. The last speaker contended that the increase of population would be less than was suggested in the Paper, and the author himself, wishing to minimise the calculated increase, suggested that the question of population was mere assumption; but of course one must base calculations upon something, and there certainly seemed a probability that, though the birth rate did not appear to be increasing, the influx from the country into London would go on at an increasing rate. The author seemed to think that provided there were enough water up to 1961 London might then be left to look after itself.

He thought there were two points which required consideration—one was, how far it was possible without danger, to have a large population near a river, supplying a number of sewage farms, from which a certain effluent flowed into the river, and how soon that effluent, which might not be adequately purified, would be in a fit state for the people lower down to drink the water.

The author said the water was of very good quality, but supposing the population to increase, not only in

London but, as it was undoubtedly increasing, at some little distance from London along the Thames Valley, would it be possible to obtain pure water from the river? All that the author seemed to care about was that the water should be returned to the river, and that no doubt was being done more thoroughly now than was formerly the case.

When he first went, ten years ago, into the locality where he at present lived, everyone had to irrigate his own land with the overflow water from cesspools, but it was now carried to a sewage farm near to the Thames, and the water was no doubt given more quickly into the river, but whether that was an advantage remained to be seen. That was one point to be borne in mind.

He had no predilection as to whether the necessary additional supply of water for London should be got from the Thames or from Wales, but he thought the fact should not be overlooked that, although it might be possible to get a site in Wales at the present time, it might not be easy to do so in 1961. The author said that it would be time to look out for a site when the population reached 15 millions, but it was possible that by that time some other town would have taken the water. It was hardly wise to wait for a period when London would have grown so greatly, and when the water would not be as pure as it might be at present, and London must of necessity go to some other place than the Thames, and there might be no other place for it to go to.

Mr. Claude Baggallay, Q.C. (Visitor), said it seemed to him, from that part of the discussion which he had heard, that there was a certain amount of digression from the point which was at the present moment at issue. It seemed to him to be a question as to whether, so long as the Thames and the Lea could be proved to be sufficient in quality and adequate in quantity, it was desirable to go elsewhere, possibly at much greater expense, to get water for the supply of the metropolis. That seemed to him to be the real question at issue.

A previous speaker had discussed the question whether these undertakings should remain in the hands of the Water Companies. That seemed to him to be totally irrelevant, and had nothing to do with the question raised by the Paper. He also went into the question as to whether 60 gallons, or any other quantity, was sufficient for a bath. It seemed to him that was also totally irrelevant. The question was, what was the general quantity required to supply the population with an adequate amount of water to meet their ordinary needs, and not to encourage waste, which that speaker seemed to suggest was desirable.

Again, the question of supplying water by meter seemed to him to have nothing to do with the question before the Meeting. If he said anything about it at all he would say that meter supply had, he knew, been tried in Norwich. He did not know whether any other town had been bold enough to try it, but it was given up simply because it was really a premium on dirt—for no other reason. Those who had control of small class dwellings were at once tempted to cut down the consumption of water by their tenants to an irreducible minimum. The City of London, he thought, was originally at the back of a Bill, promoted about 1891, which proposed to compel the Water Companies to supply water by meter. They did not calculate how many acres of ground would be covered by the meters for carrying out the scheme, which was abandoned as impracticable.

To go back for a moment to the main point before the Meeting. Was it or was it not right that London should use two rivers which nature had caused to discharge into her or through her before she went elsewhere? There were two things which seemed to him to control the answer to that question—one was the cost of utilising what was at her doors, and the other was the sufficiency and quality of that supply. He was not going to discuss the question of sufficiency and quality for the reason that Lord Balfour's Commission went very fully into it. They found that if the maximum rate of increase of population continued, there was still water enough in those valleys to supply London for very many years to come, and that finding was based upon the assumption that the population went on increasing as it did from 1881 to 1891, which he did not think it was reasonable to expect.

The next point for consideration was gone into fully by Lord Llandaff's Commission. It was impossible to go into all the evidence taken before that Commission as to the question of cost, but he thought it was conclusively proved by the Report that it must be more costly to bring water from Wales, or anywhere else, until the sources in the Thames Valley were exhausted. But it was not necessary to discuss that, for Parliament had already decided that the Lea was to be used to the full, and had given the necessary powers. That matter, therefore, was *res judicata* he might say. Parliament had given the East London Water Company power to make reservoirs with a capacity, he thought, of 7,500 million gallons to impound the whole available water of the Lea.

With regard to the Thames, then, it was simply a question whether any given impounding of some of the water which at Teddington was equal to a supply of 1,350 million gallons a day on the average was adequate to supply London for a whole year with plenty of water, and impounding was absolutely a question of cost of storage. Surely it was far better to keep to the Thames, where there was plenty of water (assuming the quality to be right), and where reservoirs could be made as they were wanted, in a most economical form, than to go to Wales or somewhere else, where directly the work was begun the whole of the works must be completed at an enormous expenditure, which would be absolutely wasted for years. The expenditure would be incurred in the first 10 years, while the scheme could not be brought into full use for perhaps 20 or 30 years or even more.

He hoped sincerely that the feeling of Londoners would be, while not restricting legitimate cleanliness, to restrict in every possible way that waste which had been the curse of the London supply for many years. He had read the Paper very carefully, and he must congratulate Mr. Middleton on the great care with which he had prepared it, inasmuch as he had steered clear of questions which were apt to give rise to acrimonious discussions, such as the water supply being left in the hands of the Companies or placed in the hands of the County Council, or other differently constituted authorities, and had confined himself absolutely to the material matter, namely: Was London to rely on the Thames and the Lea as long as possible, or at once to jump into an expenditure which must be burdensome?

Mr. JOSEPH LUCAS (Professional Associate) said many previous speakers, as had been pointed out, had wandered away from the subject, and some, so far as he could make out, had but imperfectly read the Paper.

He had taken some trouble in preparing a few figures bearing on the subject, and to save time he had put them in the form of tables, which might, perhaps, be printed at the end of his remarks.

With regard to the Paper itself, it consisted, he thought, principally of two parts. The first part was a dream of the population of the future, and it would be idle to discuss whether, on one small spot of the earth's surface, such a large aggregation of human beings could exist, as London was threatened with in the Paper.

The author suggested an area requiring a diameter of 33 miles, full of human beings. Could they all live? In a Paper read at the Statistical Society by Mr. Price Williams, it was shown that the curve of the increase of population through the last century was taking such a form that when the population of London reached anything like 8 millions it would be almost flat and after that, unless the rate of increment increased, there would be a limit beyond which the population would not go. In the history of all great cities of the past that had been so.

The second part of the Paper was, he thought, a no less visionary calculation as to the quantity of water that the Thames basin was capable of producing.

With regard to wells, he contended that the whole of the calculations relating to that subject were taken on too high a scale, which was borne out neither by experience, nor by theory, nor by the laws of hydraulics. He was entirely agreed with the author as to the figure of 8 inches which "ran off" at Teddington. In May, 1897, he contributed a Paper to the *Professional Notes* of the Institution which went over very much the same ground as did parts of the present Paper, and in that he stated that the average flow of the Thames is about 1,100 million gallons per day. As the average could not be impounded (taking into consideration the length of time necessary to keep the water to do it, viz. 50 years), he was rather astonished to find that Mr. Middleton was working on averages which were subject to the exigencies of the minimum.

As a matter of fact the minimum flow of the Thames represented, not 8 inches, but 3½ inches on the area. Therefore in all calculations as to what the Thames Basin was capable of doing it was necessary to arrive at accurate areas, such as were given in Table I. As London could only take half the 3½ inches that the Thames actually gave, it was necessary to supplement that by storage. That brought him to the middle part of the Paper, namely, the subject of Staines Reservoir. Upon that part he was entirely in accord with the author of the Paper as to the paramount necessity of giving an enlarged reservoir accommodation at or near Staines, or in that locality, and there was one point that, he thought, could not be too strongly insisted on, that no restriction should be placed on the area of land to be used for impounding reservoirs, but that a strict limit ought to be fixed for the height to which the banks of those reservoirs should be carried, for it was not the expanse of water behind the dam, but the depth of the water that constituted a source of danger to the population near those reservoirs. In the table to which he (the speaker) had referred, he gave the total surface area of the Thames basin west of the Cam basin, including the Lea basin on the north, and west of the Medway basin on the south, at 4,927 square miles. The total spring yielding area, above the Companies' intakes was 2,167 square miles, and at the time when the summer flow of the Thames was at or near its lowest, it was all spring water coming from that area of permeable beds.

He noticed that no reference was made to the quality of the water or to its purity. He had found in his own Paper in the *Notes*—as the author also stated in this Paper—that at the time when the Thames was at its lowest London was taking one-half the flow. Therefore when the population of London was doubled it would take it all, *i.e.*, when his figure for the year 1961 was realised, double the quantity of water which the Thames was capable of producing would have to be found elsewhere. It certainly could not be pumped from the Thames unless it was proposed to pump mud.

Another point was, that the water was to be used over again. He was astonished to find anyone rash enough to put such a suggestion into print. Everyone knew what happened, but no one liked to acknowledge it. Perhaps the author was satisfied with the turncock's definition of pure water, namely, " pure water is water " that comes out of the tap, Sir," but the time would come when the population would be so far increased that the purity of the river must inevitably suffer. Therefore schemes relying on the Thames as the source of supply for London were all open to the same objection. They were mud and sewage schemes at best; it was impossible to alter them, and the time must come when on two grounds—deficiency of quantity and deterioration of quality—London must seek a supply from Wales, in addition to that taken from the Thames Basin.

TABLE I.

	Square miles.
Total surface area of Thames Basin West of Cam Basin and *including Lea Basin* on the north, and *West of Medway Basin* on the south side	4,927
Out of which take *Total spring yielding area* of all formations	2,869
Leaving non-absorbent strata	2,058
Total area of chalk west of same boundaries (including two upper greensand inliers, 10 square miles)	1,564·5

	Square miles.
Nett area of chalk west of same boundaries (after subtracting 69·75 square miles draining out of Thames Basin, and adding 28·65 draining in from outside)	1,523·45
ABOVE COMPANIES' INTAKES—	
Total surface area (*see* Table II.)	
Total spring-yielding area of all formations	2,167
Total surface area of chalk (including the 10 square miles of U. G. S.	1,045·5
Nett area of chalk (after subtracting 27·6 square miles draining out, and adding 27·4 draining in	1,045·3

RULE.—These areas × 0·14 give millions of gallons per day at 3½ inches of rain per annum.

TABLE II.

SURFACE AREAS—	
Above Teddington Weir.	
According to Hawksley	3,676
According to another authority	3,776
According to Lucas, total surface area	3,665
„ „ Nett after subtracting 23·65 draining out and adding 27·4 draining in	3,668
According to Middleton (p. 81 of Paper)	3,766
Above Kingston.	
According to T. Harrison	3,676
According to Beardmore	3,670
Above Hampton.	
According to Scott	3,465
Above Thames Ditton	
According to Hawksley	3,656
Above the Companies' Intakes	
According to Scott	3,500
According to Rawlinson	2,343
According to Middleton (p. 82 of Paper)	3,548

Mr. H. ASHTON HILL (Visitor) said the question of the future water supply of London was a matter of the keenest interest to country water engineers like himself, and while few people cared much for the controverted question as to who should control that supply —whether it were to be the London County Council or the present Water Companies—everyone must have an opinion on the disputed question of the actual source of the future water supply, as to whether it were possible to obtain it in the London Basin or whether much of it should be obtained from Wales or from other distant sources.

He considered Mr. Middleton's Paper a most able advocacy of what might be called the home supply, as distinct from the Welsh supply, but he must acknowledge that excellent as the Paper was, it failed to convince him.

The advocates of the home scheme, for obtaining additional water from the basins of the Thames and the Lea, said, and very naturally so, "Why go, at an "enormous cost, to Wales in order to make the future "London supply complete and satisfactory, when we have "before us an equally good scheme which utilises the "waters close at hand?" But Mr. Middleton acknowledged that London would certainly have to go, in the course of time, to Wales, or at all events somewhere else than the Thames and Lea Basins, say in about half a century. If this were true (and he had no doubt it was so), it was hardly possible to begin too soon, for the construction of the necessary works might be certainly calculated to occupy at least some fifteen or more years, and to this must be added time for the preliminary legislation, (say another five years) so that in any case consideration and preparation for the Welsh scheme could not possibly be deferred longer than the year 1941, even granting that all the water said by Mr. Middleton to be obtainable under the home scheme could be fully utilised according to his suggested plan.

Having had a long experience of deep well water supplies, he doubted much whether it was possible to obtain so large a quantity of water from deep wells as that indicated by Mr. Middleton, who in the interval between the present time and the year 1961 proposed to augment the maximum supply to be taken from the Thames and Lea by no less than 384 million gallons a day, derived from wells alone. Mr. Middleton must be a sanguine engineer to feel confident of obtaining so enormous a volume of water from such sources. As a previous speaker had pointed out, it was an easy matter to estimate roughly the quantity of water absorbed into the ground, but it by no means followed that it was possible to obtain by means of deep wells anything like the whole of the quantity absorbed.

Again, if this quantity of well water were procurable, the 384 million gallons would almost certainly involve the establishment of some 200 pumping stations or thereabouts. For each of these wells there would be the great cost of sinking, with the certainty of many failures. For each station there would be needed the erection of buildings, the installation of pumping machinery, and the laying down of the necessary mains. The whole would entail an enormous amount of constant supervision, and a gigantic annual charge for upkeep and maintenance in proper repair. In fact, even the forecast of a scheme of such magnitude was calculated to almost take the breath away of those familiar with the details of a water supply dependent mainly upon deep wells.

It would be difficult, he thought,to quote any instance of a pumping scheme involving more than about a tenth part of such a large number of pumping stations, and because a score or so of pumping stations had been worked satisfactorily together it by no means followed that 200 or even 100 could be. He was, therefore, inclined to regard this scheme as a complicated and an unworkable one, and one not justified by actual practice in the past.

His own experience, as engineer-in-chief of the South Staffordshire Water Works Company, induced him to took askance at any such gigantic pumping scheme as that suggested. The area under his charge approached 300 square miles, and was some 40 miles by 20 miles between its extreme limits, with levels varying from 150 O. D. to 900 O.D., necessitating pumping and re-pumping, sometimes twice over, for a considerable proportion of the water supply. The present available yield was 10 million gallons per day, of which 3 million gallons was gravitation stream water and all the remainder, 7 million gallons, from wells. There were 13 distinct pumping stations.

He had recently been engaged in obtaining underground well water supplies at three different places within the area, and had derived a total from the three wells of from 5 to 6 million gallons per day. These new wells afforded exceptionally good yields, as deep wells go in the new red sandstone.

He had personal knowledge of fully a score of deep wells, and his own experience in the control of districts where the bulk of the supply was from deep wells impelled him to more than doubt the practicability of Mr. Middleton's proposal. He certainly thought his pumping scheme would need to be fortified by far more facts, and very much more experience than water engineers have at the present time, before it would commend itself to anyone conversant with the difficulties and uncertainties that almost invariably beset a large scheme for supplying enormous quantities of water from deep wells.

On the other hand, the Welsh scheme involved no uncertainties. Water engineers had abundant experience of such schemes, and in these schemes of gravitation supply almost every particular could be gauged or estimated beforehand. By carrying out such a scheme, London would have an entirely independent string to its bow, and there could be no question about the ability of engineers to bring such a scheme to a successful issue. Such a scheme would involve considerable cost, of course, but even this could be calculated with a fair degree of accuracy. If Liverpool, Glasgow, Manchester, and Birmingham could afford to carry out such gravitation schemes, surely London would not be deterred from having the best scheme possible, merely on the score of cost.

Mr. S. H. Cowper Coles (Fellow) said he should like to say a few words, as a land agent coming from the Welsh watershed, and knowing well the area of Wales which the proposed scheme affected. In his Paper, Mr. Middleton had given the average rainfall as 40 inches, but from rain gauges which he had kept on the River Usk and the River Wye, and from others to which had access, he felt sure that those figures ought to be at least the 55 inches previously mentioned in the Paper.

He did not think the question of compensation had been sufficiently considered by engineers. Every Member of the Institution present probably knew the Thames well, but he apprehended that few of them knew the Wye equally well, and in comparing those schemes it might help the discussion if the conditions governing the Usk and the Wye, which were the main rivers on which those schemes were proposed, were clearly understood. The River Wye was represented as, in the main, a flowing river of something like 130 miles in length, and it had no great commercial value, as the Usk had with Newport Docks at its mouth, or any canal, such as the Usk had, belonging to the Great Western Railway. But it had a commercial value affecting all the counties in the way of fishing rights. The fishing value had been treated by one of the speakers as if it were a very small matter, and could be easily compensated. The landlords looked for compensation water, but that was not always adequate for the water taken ; fishing in the Severn had deteriorted very largely, and there was a very strong feeling about the amount of compensation water that had been allowed.

The Wye had the large Birmingham scheme already on it. This scheme demanded an area of 80 square miles, principally within the Wye area, and a certain amount of compensation water was allowed. If London came, it would drain the west or wet area of the river above a very important junction of the river known as Three Cocks. To give roughly an idea of the value of the fishing he might state that the Wye was the longest netted salmon-fishing river at the present moment in England or Scotland. He did not say it was an advantage to them it was a disadvantage, and so much so that the owners have formed an association and bought a portion of those nets now in the estuary, which would be about one quarter of the fishing rights, for the sum of £15,000, which would pay them 4 per cent. on the present rental. That, he thought, would give an idea of the great fishing value of the river. Any estates in the market from time to time no doubt commanded increased prices on account of the fishing value.

In the neighbourhood where this reservoir was to have been, he thought, about 6 miles below, there were two farms where the fishing value was far above the rental value of those lands. No case had as yet arisen before the

Parliamentary Committees where the landowners had combined, or where the fishing rights had been thoroughly thrashed out, but he thought whenever the day came to adopt the Welsh water scheme, or any other river where there was fishing value, it would be necessary to add a considerable sum for damage done to the property. Two Bills for the Welsh water scheme had been brought in, and he hoped there would not be another till something final was done, for it was a serious matter to be perpetually lodging petitions against such Bills.

There was only one other point he would mention, namely, the quality of the water. Some gentlemen seemed to think that Welsh water was very charming and very soft. If they would make careful inquiry of a Liverpool man how he liked it, and how peat tasted, and how it was got rid of, a very short answer would probably enlighten them.

Mr. W. MORRIS (Visitor) said there was one point that had not, he thought, been dealt with as fully as it might be. If it was doubtful whether the population of London would increase so very rapidly as had been calculated, the vast expenditure necessary to carry out the Welsh scheme was a great argument in favour of taking up a scheme which could be carried out in blocks, so that it could be adapted to the needs of London from time to time.

One speaker advocated a very lavish use of water, but he was very glad to see that he was quite willing to pay for it, for he proposed that water should be supplied by meter, which was probably the most effectual way of preventing waste.

Mr. W. HUNTER (Visitor) said that as the hour was getting late, and as he believed there were several gentlemen present who desired to speak, and whose opinions would add much weight to the discussion, he would, if he might do so, move the adjournment of the discussion to the next Meeting.

The PRESIDENT announced that it had been found necessary to alter the date of the Annual Dinner from Wednesday, 13th February, to Monday, 4th March. The Meeting then adjourned.

AT

THE ORDINARY GENERAL MEETING,

Called for Monday, January 28th, 1901,

For the further discussion of Mr. R. E. MIDDLETON'S

Paper on

"THE FUTURE OF THE LONDON WATER SUPPLY."

The PRESIDENT, on taking the Chair, at once arose and addressed the Meeting, as follows:—

"Since we last met in this room, only a fortnight ago, a very great calamity has befallen us and the country at large in the death of our beloved Sovereign, Queen Victoria. In consequence of that sad occurrence the Council have come to the conclusion that we should best show our respect to Her revered memory by adjourning this Meeting. The Council believe that in taking this course they are not only expressing their own feelings but those of all the Members present or absent on this occasion. I desire to add that the Council also propose to prepare and forward to the proper quarter a formal resolution on behalf of themselves and the Members, expressive of their sense of the grievous loss sustained by the Empire, and their respectful sympathy with His Majesty King Edward VII., and the other Members of the Royal Family, in their sorrow and bereavement, and to offer their humble good wishes to His Majesty on His accession to the Throne, and an assurance of their loyalty and devotion. I feel quite certain that all of you will agree as to the course proposed to be taken.

"Under the circumstances, it is not for me to say much on this sad subject, but in the midst of all our sorrow I think we may be thankful that our beloved Queen died so peacefully, surrounded by her family and those near and dear to her, and that we should be grateful for the splendid example which she has left to us in every sphere of duty. That example is one that never can be excelled, if indeed it can be equalled, and I sincerely hope that the pattern she has set of all that is most worthy in life may long dwell in the recollection of us all.

"I happen to be one who remembers well the accession of Her Majesty Queen Victoria, and, speaking as a close observer of events during the long period that has since elapsed, I have no hesitation in characterising her reign as the greatest in all history.

"The business of this Meeting will stand adjourned until February 11th, when I trust that those who have kindly come prepared to speak this evening will again favour us with their presence."

No. 421.

AT

THE ORDINARY GENERAL MEETING,

Held on Monday, 11*th February,* 1901.

JOHN SHAW (President) in the Chair.

The PRESIDENT, on taking the Chair, said that it would be remembered that the last Meeting, called for the further discussion of Mr. Middleton's Paper, was adjourned, as a mark of respect on the occasion of the death of our lamented Sovereign, Queen Victoria. The Council and the Members present on that occasion expressed their great sorrow at the calamity which had fallen upon the Empire and their respectful sympathy with the King and The Royal Family in their great bereavement. At that Meeting he had promised in the name of the Council to prepare an Address to the King embodying these sentiments. This had been done, and he would now ask the Secretary to read that Address.

The Secretary then read the Address as follows (the Council and Members standing):

"To the King's Most Excellent Majesty.

"THE HUMBLE ADDRESS OF THE PRESIDENT, COUNCIL
"AND MEMBERS OF THE SURVEYORS' INSTITUTION
"(INCORPORATED BY ROYAL CHARTER).

"We, the President, Council, and Members of The "Surveyors' Institution, in General Meeting assembled, "respectfully approach Your Majesty with an expression "of heartfelt grief at the great calamity which has "befallen the whole Empire in the death of our Beloved "Sovereign Queen Victoria, and of our gratitude for the "blessings which the Nation has enjoyed for the past "sixty-four years under the influence of Her exalted "character and noble example.

"While thus expressing to Your Majesty and the "Royal Family our respectful sympathy, we desire to "offer our sincere congratulations on Your Majesty's "accession to the Throne of the Empire, and an "assurance of our loyalty and devotion."

The Address was then agreed to unanimously, the President intimating that it would be engrossed and forwarded to the proper quarter.

Before calling upon Mr. W. Hunter to resume the discussion, the President asked the Secretary to read the following communication from Mr. E. K. BURSTAL, M.Inst.C.E.:

The population supplied by the eight London companies at the beginning of 1892 was, approximately, 5¾ millions, and the average consumption about 31 gallons per head.

Constant supply was afforded as follows :—

	November, 1891.	November, 1900.
Chelsea	23 per cent.	100 per cent.
East London	98 „	99 „
Grand Junction	75 „	100 „
Kent	56 „	93 „
Lambeth	53 „	76 „
New River	44 „	95 „
Southwark and Vauxhall ...	77 „	93 „
West Middlesex	43 „	98 „

The great increase in the percentage of constant supply is a point upon which the companies are to be sincerely congratulated.

At the present moment the supply is afforded to about 6,200,000 persons, at the rate of nearly 33 gallons per head per day. If the population in the said area had increased as was anticipated, according to Mr. Middleton's figures, the number would have been 6¾ millions. It is therefore apparent that the population is not increasing at the rate that was anticipated.

There can be no doubt that a domestic supply of 17 gallons, and the trade and public supply of 8 gallons, is ample for London or any well-managed undertaking (unless the trade supply is abnormal), or a total of 25 gallons per head daily.

It is apparent that a loss of over 8 gallons per head daily is taking place, or approximately 50 million gallons a day, or a supply for an additional two million persons, or 30 per cent. more than the number at present supplied, as pointed out by my partner Mr. Stevenson and myself in a small pamphlet on "Metropolitan Water Supply," published in 1892. This 50 million gallons daily represents an expenditure for collecting, pumping, and filtration of £50,000 annually, and an expense of certainly £10,000 yearly in the additional quantity of sewerage which has to be dealt with by the London County Council at their pumping stations.

Comparing the month of November, 1891, with the corresponding month of 1900, only one company (the East London) has improved its position in the matter of checking waste. The other companies have all gone on the backward path, thus :—

	November, 1891.	November, 1900.
Chelsea	33·87	45·25
Grand Junction	35·49	45·29
Kent	27·24	30·21
Lambeth	27·46	33·29
New River	26·85	30·25
Southwark and Vauxhall ...	29·97	36·19
West Middlesex	29·08	32·63

The notice recently published in the papers intimating that the Metropolitan Water Companies are intending to propose fresh regulations under the powers of their Acts of 1852, 1871, and 1897 is apparently an earnest of their intentions to bring the regulations of the Water Companies in London into harmony, and it is to be hoped more in unison with those prevailing in well-managed undertakings in provincial towns, such as Portsmouth, Nottingham, Norwich, Bury, Derby, &c. But unless regulations similar to those are adopted in lieu of the emasculated regulations usually finding favour with the Local Government Board, they will be of little more use than those existing at the present time.

The adjourned discussion on the Paper by R. E. Middleton, M.Inst.C.E. (Fellow), read at the Ordinary Meeting of the Institution on Monday, December 10th, 1900, was then resumed by

Mr. W. HUNTER (Visitor), who said that although he had been closely associated with Mr. Middleton in carrying out the Staines Works, and therefore in the main agreed in the conclusions at which he had arrived, he might, he hoped, be permitted to offer his congratulations to the author upon the success that had undoubtedly attended the Paper, which, although it necessarily dealt with contentious subjects, was written in a scientific spirit which must appeal to the judgment of all calm practical men.

With regard to wells, it appeared to him that the author put forward many cogent reasons in support of his figures, and he could not help feeling it was quite possible that we might obtain from wells a larger supply than that of which we at present availed ourselves. But he proposed to leave the answer to this question entirely to Mr. Middleton, who had studied the matter most definitely, and on this occasion to confine his attention mainly to the question of the development of the Thames by means of storage reservoirs with which he had been now for some years connected.

The Paper again raised the question, of the Thames *versus* Wales, or other outside sources, and it seemed naturally to divide itself into four parts.

First, what were likely to be the requirements of London in the future? Secondly, was the quality of the proposed supply good? Thirdly, was there an available quantity sufficient for many years to come? And if Nos. 2 and 3 were answered affirmatively, there appeared to him to arise the further question, namely, which was the cheaper method of supply, and therefore the more advantageous to London?

With regard to the future requirements of London, it was very difficult to arrive at reliable figures so far as the population was concerned. He believed that the author's figures were mainly in agreement with those accepted by Lord Balfour's Commission, which considered the question up to 1931, by which year they calculated, supposing London to increase at the same rate as between 1881 and 1891, that it might reach a population of about 11¼ millions. The Commission took as the rate of supply about 35 gallons per head per day. That had always seemed to him to be ample. In Norwich, the allowance was in round figures about 17; in Manchester about 32; in Liverpool about 28; and in Sheffield about 26 gallons per head per day. In London, as he had said, the rate was laid down at 35 gallons. He was well aware that the London Companies differed in the quantities they supplied. His own Company supplied the larger amount, but by carefully guarding against waste they had reduced the rate considerably, and he was convinced that by perseverance they could still further reduce it.

It should be remembered that in the Grand Junction Company's district there are some 70 to 80 clubs and hotels, each of which was supposed to have a fixed population of 6·48 or 6½ persons. If one divided the total quantity supplied to these hotels and clubs by the number of persons supposed to be in them, it would be found that it worked out to about 1,100 gallons a day, and what he wished to point out was that the figures given must be read in the light of the circumstances under which the supply was afforded. He was glad to know that the support of such a well-known authority as Mr. Whitaker was on the side of those who were making endeavours to check waste. As members would be aware, the Companies were now appearing before the tribunal appointed by the Local Government Board with a view to obtaining such reasonable regulations as would to a great extent prevent the waste now going on, which was not only of no use to anybody, but was actually detrimental to the interests of the large body of consumers. He hoped in all such matters to be able to count upon the cordial support of a powerful body so deeply interested in the question as were the Members of The Surveyors' Institution.

In his Paper, Mr. Middleton arrived at the conclusion that about 717,000,000 gallons would be required in 1961, 400,000,000 gallons of which would be taken from the Thames. He agreed generally with those figures, but he proposed, on the present occasion at any rate, to confine his remarks to the consideration of the 400,000,000 gallons from the Thames which might be required in about 40 years from the present time.

But beyond the question of the quantity of water that might be required, attention must also be paid to its quality.

In paragraph 178 of the Report of Lord Balfour's Commission this conclusion was come to: "We are strongly " of opinion that the water as supplied to the consumer in " London is of a very high standard of excellence and "of purity, and that it is suitable in quality for all "household purposes. We are well aware that a certain "prejudice exists against the use of drinking water "derived from the Thames and the Lea, because these "rivers are liable to pollution, however perfect the "subsequent purification, either by natural or artificial "means, may be; but having regard to the experience "of London during the last 30 years, and to the "evidence given to us on the subject, we do not believe "that any danger exists of the spread of disease by the "use of this water, provided that there is adequate "storage, and that the water is efficiently filtered before "delivery to the consumers."

Since the date of the Report of Lord Balfour's Commission the Thames Conservancy had obtained their Act of 1894, which they had used with great effect. Anyone who had carefully observed the river must have seen that it was now in a much better condition than before that date, and he thought he was right in saying that Mr. Groves, the chemist of the Thames Conservancy, stated before the Llandaff Commission that the water of the Thames as a rule now only contained something like one-third of the impurities it did some eight or nine years ago.

It had been pointed out by Mr. Thomas Hawksley that the natural purification of water by aeration had an enormous effect. Sir Edward Frankland, in a Report dated January 31st, 1898, treated the question of quality very satisfactorily. He supposed Sir E. Frankland had more experience as an analyst of the Local Government Board than, perhaps, any other man in the country, and, approaching the matter from an absolutely independent position, he reported as follows:

"In the following table are recorded the results of "observations respecting the freedom from turbidity or "otherwise of the various waters, and for the purpose "of comparison the results of my first observations in "1868 are also included." Then he gave a table of figures and continued:

"This table strikingly exhibits the great improvement which the Water Companies who drew their sup"plies from rivers have effected in filtration since I "began these examinations for turbidity in 1868. In "that year seven samples were so turbid as to be highly "repulsive in appearance, nine were turbid, and no less "than twenty slightly turbid; whereas during the year "1897 no sample of filtered water was turbid in the "slightest degree. On the other hand, nine samples of "deep-well water, which does not usually require filtra"tion, were slightly turbid owing in all probability to "disturbance by the pumping machinery." With regard to the bacterioscopic examination, Sir E. Frankland wrote in the same report: "The standard of 100 "microbes per cubic centimetre, as an indication of "efficient bacterial filtration, adopted by Dr. Koch and "myself, is, of course, purely arbitrary. I consider it is "a sufficient, but not unduly severe, test to apply to the "filtration of the river-derived supplies of the London "Water Companies; but I desire it to be distinctly "understood that the infraction of this standard does "not throw suspicion upon the wholesomeness of the "water."

In the same way Sir W. Crookes and Professor Dewar had for years analysed water, and in their Report of October, 1897, they wrote: "There is no "city in the world where such minute and incessant "care is taken daily and almost hourly to detect and "report on the slightest deviation from the purity in its

" water supply. Apart from the daily bacteriological " examination of the clear water wells of the Company " we frequently make specific tests for the presence of " pathogenic organisms. If any other than a negative " result had been obtained the fact would have been " recorded." And in their Report of January this year they state that the improvement in the filtration of the London microbes in the Thames waters since 1897 amounted to 55 per cent. since 1897, to 70 per cent. in the New River, and to nearly 85 per cent. in the Lea.

But it had always appeared to him that the strongest practical testimony of the goodness of the London water was shown in the vital statistics of the Metropolis. The reports from chemists and other gentlemen were most valuable, for they taught where to look for improvement, but at the same time he considered it impossible to have a death rate of 18 per 1,000, like that of London, unless the water supplied by the Companies of London was of excellent quality.

The next point to be considered was the quantity obtainable. It was proved by Mr. More, the engineer to the Thames Conservany, in his evidence before Lord Balfour's Commission, and accepted by that Commission, that the average flow of the Thames was 1,350 million gallons daily, taken over 15 years.

Now the minimum which the Thames Conservancy required or asked to be allowed to flow at Teddington was 200 million gallons a day. There was thus on the average of years a balance of 1,150 million gallons available for the water supply, if only reservoirs of sufficient capacity could be made to store the water.

He desired not to be misunderstood. The nearer the ultimate capacity of the river was approached, the larger was the storage necessary to maintain the supply ;

and there would come a time when the cost of making reservoirs and pumping machinery and the expenses attached to them would become greater than the cost of obtaining an additional supply from outside sources. The supporters of the Welsh scheme proposed originally that the Thames and Lea should be wholly abandoned as sources of supply, and that their scheme should be carried out at an ultimate cost of 38 million sterling, for which sum they anticipated obtaining 415 million gallons daily.

It was true that they had abandoned that view, and now proposed the Welsh supply only as a supplemental scheme. He did not wonder at their change of front, for it was obvious that after exhausting the Welsh supply it would be necessary to revert to the present sources, which the supporters of the Welsh scheme now affected to despise, and once more to rely on the Thames and Lea.

The true solution appeared to be, first, to utilise the admirable water supply which the natural position of London secured to its inhabitants until the cost of such development was greater than that of obtaining water from Wales or from some other outside source.

Whether it would be advisable to secure reservoir sites which might hereafter be utilised was another question. To his mind, having regard to the increase in the population, the question of water supply was a national one, and ought to be treated on national lines, by which the claims of all cities, towns, and districts could be fairly determined and met.

The above considerations naturally brought him to the fourth head, namely, which was the cheaper method of supply, and therefore the more advantageous to London. The answer to this question of course depended upon the length of the period which it was necessary to provide for. Lord Balfour's Commission took 40 years into their purview, and he thought that such a period was sufficient for the present generation to consider. But as the estimates laid before the Llandaff Commission covered the period up to 1948, at which date it was believed that about 400 million gallons daily would be required from the Thames, he took that as his ultimate limit for the present.

The estimates of Sir Alexander Binnie were based upon two quantities of 121 million gallons and 93 million gallons daily from Wales, together 214 million gallons. Estimating the cost of these schemes by analogy of the cost of the Vyrnwy Works for Liverpool, the Elan Works for Birmingham, and that of the Thames supply from the reservoir of the Staines Works, he arrived at the following figures:

For the Welsh scheme for 121 million gallons daily supply, £20,600,551 for works.

The Thames scheme for a similar quantity of water —for the works, £5,340,717.

The interest during construction of the Welsh scheme would be £3,190,000, and the interest during construction of the Thames scheme £943,673.

The capitalised pumping charges on the Welsh scheme would be £87,747, and the capitalised pumping charges on the Thames scheme would be £2,773,000. Altogether, for 121 million gallons daily supply, his estimate of the total cost of the Welsh scheme would be £23,878,000, and for the Thames scheme £9,057,000. For a supply of 214 million gallons daily the works for the Welsh scheme would represent £32,712,000, and the works for the Thames scheme, £10,589,000. Interest during construction would be for the Welsh scheme

£4,283,038, and for the Thames scheme, £1,617,908. The capitalised pumping charges for the Welsh scheme would be £173.262 and the capitalised pumping charges for the Thames scheme would be £5,278,674. The total cost of the Welsh scheme, for 214 million gallons daily, worked out at £37,169,165, and for the Thames scheme, for the same quantity, at £17,486,082. Thus 121 million gallons daily under the Welsh scheme would cost about 2½ times as much as the Thames scheme, and for 214 million gallons 2¼ times as much.

Lord Llandaff's Commission treated the figures in a somewhat different way, as would be seen by reference to paragraph 122 (page 49) of their Report, which said :

" The divergence of these estimates is so great as to " make the task of deciding between them difficult and " hazardous. As against Sir Alexander Binnie's estimate " for the Yrfon supply of £10,032,250 for the cost of " works, we have Mr. Middleton's estimate for the same " works of £20,839,243, and Mr. Hunter's of £20,600,551, " this being the lowest estimate of the opponents of the " Welsh scheme. Our Assistant Commissioner, Colonel " Rathborne, accepted Sir Alexander Binnie's estimate " for works, with an addition for law expenses bringing " it up to £10,629,000. To each of those estimates for " works an addition must be made for accumulated " interest during the construction of the works and for " pumping charges capitalised. This addition brings " Colonel Rathbone's total to £15,406,781, Mr. Hunter's " to £23,878,448, and Mr. Middleton's to £33,843,174.

" Even the lowest estimate largely exceeds the cost " of obtaining an equivalent supply from the Thames " with sufficient storage. Perhaps the clearest illustra- " tion of the relative cost of obtaining approximately " equal quantities of water from the Thames and from

" watersheds in Wales is obtained by calculating in each " case what sum of money invested at the present time at " compound interest, at say $2\frac{3}{4}$ per cent., and allowed to " accumulate as far as was feasible, would meet year by " year in each case all the expenses connected with the " construction of the works, the cost of pumping, and the " payment of interest during a period covering the con" struction of the works. Colonel Rathborne has made " this calculation. He informs us that a sum of " £5,427,340 invested in 1900 at $2\frac{3}{4}$ per cent. would " defray the cost of the works (commenced in 1914 and " completed in 1936) for a daily supply of $114\frac{1}{2}$ million " gallons from the Thames over and above the $185\frac{1}{2}$ " million gallons previously obtained, as well as the cost " of pumping the water into the districts, and would " further provide interest on the capital expenditure. " In order to provide a fund to meet the cost of obtaining " an equal supply from the Yrfon, it would be necessary " to invest in 1900 on similar terms a sum of £12,184,094 " The Welsh scheme involves an expenditure which " must all be incurred at once, and cannot be regulated " and delayed according to circumstances, like that on " the Thames storage works. That expenditure would " during the 10 or 15 years required for the construction " of a reservoir on the Yrfon and an aqueduct to London " be wholly unremunerative."

It would thus be seen that those two sums, £5,427,000 and £12,184,000 for the supply of $114\frac{1}{2}$ million gallons, worked out as nearly as possible in the proportion of $2\frac{3}{8}$ to 1, which went largely to confirm the figures in the estimate he had given on his own responsibility.

With regard to Professor Robinson's scheme as set forth in his speech, in comparing its cost with that of the Staines Reservoir he was mistaken in supposing that the three millions more or less, compared with the nine or ten millions mentioned in Lord Llandaff's Report, which included the cost of the engines for pumping the supply, the charges of pumping to store and supply (capitalised and reduced to present value), for mains to the service reservoirs of the Companies, and for accumulated interest during the execution of the works, which would be charges upon any scheme exactly as on the Staines scheme. His (Mr. Hunter's) estimate for reservoir, aqueduct, pumping engines to store and mains, was £3,346,900. Moreover, the scheme could not be carried out in small instalments, like the Staines scheme.

The Water Companies of London were very often attacked as monopolists, and were so abused in some quarters that one would think the directors and shareholders must be utterly devoid of conscience or humanity; but he ventured, on the other hand, to maintain that no public bodies in the world had done more beneficent service for the health, comfort, and convenience of mankind than had been done by these well-abused corporations. There were in all some 900,000 supplies, but the really serious complaints made annually might almost be counted upon the fingers of one's hands. The quality was excellent and the quantity abundant, and in regard to the cost, he might mention that the charges in London were less than those in Liverpool, Manchester, Salford, and many other towns. He believed that the water supply of London might well compare with that of any other great town in the kingdom or in the world.

Finally, as regarded the Staines scheme, which with the late Alexander Fraser he had formulated, and the first part of which he and Mr. Middleton were now carrying out, he believed that the scheme had saved London an expenditure of some 20 millions for the next 20 or 30 years, and he found he was therefore justified in his belief that it had thus conferred at any rate some benefit on the inhabitants of the Metropolis.

Mr. WHEELER, K.C. (Associate), said that, feeling like one who "rushed in where angels feared to tread" and even engineering experts felt their way warily, he ventured at some risk to his personal reputation, as being profoundly ignorant of the subject, to take his part in thanking the author for his admirable and interesting Paper, which had provided so momentous a theme for discussion.

He had listened with the greatest interest to Mr. Hunter's remarks, but that gentleman, speaking as an authority, had anticipated almost everything which he (Mr. Wheeler) had come prepared to say. He ventured to approach the subject not only as a practising barrister and an Associate of the Institution, but as one who had taken some part in the government of this great city, to which the question under discussion was one of vital interest.

He would ask Mr. Middleton to forgive him if he said that it was not altogether possible to deal with this subject in a "pure spirit of research." He wished it were; but he feared that beyond the limits of theory there were hard facts to be faced.

The whole of the present agitation (for agitation it was) had been commenced, fomented, and carried on—why? Because, in some yet unforeseen period of our national history, the population of London might reach no less than 20 millions. He must confess to a profound distrust of prophetic statistics.

On page 123, Mr. Hassard had said: "He had "carefully gone through the various estimates in the "Reports of the Royal Commissioners and others "as to the probable amount of the population at "that date, and he found that it had been variously "estimated at from 15 millions to 30 millions. He "thought those figures were entirely illusory, and that "the population in 1951 could not possibly amount to "more than 12 millions, if indeed it reached that "number." He (Mr. Wheeler) agreed, and wondered if any member present in the course of his researches had gone back so far as to read Petty on "Political Arith-"metic." If so, he would have found some very interesting statistics. Referring to the year 1687, that author stated that the population of London at that time did not exceed 697,000; and he found, by a process of arithmetic, that in 1800 the population, by ordinary increments, would have reached 5 millions. In 1841 it would have grown to 11 millions, and in 1884 to 21 millions. He felt, without saying anything disrespectful of so great an authority, that he was to some extent justified in his distrust of statistics.

He thought that one obstacle to the calm discussion of this and similar questions was the exaggeration which often crept into the arguments. He found, on page 120, a speaker insisting that everyone should, like himself, have an opportunity to become literally one of the "submerged tenth." He was proud to have belonged to that happy number for a great many years, but he was perfectly well aware that the class who wanted 60 gallons or 70 gallons of water in their morning bath was extremely limited. He believed with Mr. Middleton and Mr. Hunter that 35 gallons per head per day was a high average, which might be very largely reduced by attention to waste, and that it was in the nature of things an outside estimate.

He quite agreed with Mr. Hassard that it was necessary to take statistics for what they were worth, which he feared was often very little. Some of course were reliable, but one was arguing about an indeterminate thing when one spoke of London, and in dealing with its population the water estimate of 30 or 35 gallons per head per day must be taken with immense reservation. A very large portion of that 35 gallons was not used for drinking purposes or for ablutions.

In a recently published and remarkable work on London, the author, Mr. Booth, taking the population of London as 5 millions, estimated the population under 10 years of age at some 955,000. He took the youthful population as 1,200,000, so that only a comparatively small proportion of the total population could be users of water to the full extent of the supply. He regarded as an enormous waste of twice purified water, the vast quantity which was used in London for washing the streets, and which need not be up to the standard of water fit to drink. He could not see why "raw" Thames water would not answer the purpose quite as well.

The whole question was, he thought, summed up in the last three lines of Mr. Claude Baggallay's remarks: "Was London to rely on the Thames and the Lea as "long as possible, or at once to jump into an expendi-"ture which must be burdensome?" He thought these three lines summarised and summed up the whole of the discussion on the Paper. He was himself of opinion that there was nothing whatever to justify the expense of going to Wales for a water supply now. There was no moral or legal obligation on the present generation to provide, for those who might possibly come after, water in such quantities as might never be necessary at all. To provide London, at the cost of the present ratepayer, with what it might conceivably require after the lapse of 60 years appeared to him to be a wanton waste of money. He held that there was no immediate necessity to go to Wales, and that whenever occasion might arise there would be found from one source or another a water supply sufficient to meet the demand from time to time.

The question of "waste" was most important; if this were obviated, as it might be, the case which Mr. Middleton made was very greatly strengthened.

Mr. H. WILKINS (Visitor) said he was afraid he was like the previous speaker, unfortunate in that he had been anticipated to a large extent by the remarks of those who had gone before.

It seemed to him that the first difficulty to be faced was the amount of prejudice which was introduced into the question. It had, unfortunately, become a question which animated the spirit of political parties, and it was, indeed, extremely difficult to find a common basis on which to dispassionately argue the question. Whatever might be the result of the impartial and long hearing given by Lord Balfour's Commission to the different witnesses, their Report had at any rate commanded the respect and adherence of most persons. But no sooner was that Report published than it was attacked as unworthy of credence and impracticable, and one which ought to be rejected.

The same thing occurred with regard to Lord Llandaff's Report, but having attended, as he believed he had, every sitting of that Commission, he could honestly express his opinion that a more patient hearing of all the interests concerned could not have been given by any similar body.

Now there seemed to him to be at any rate one common starting ground, viz.: that the present water supply was adequate for the present requirements as regards quantity and satisfactory as regards quality. The problem to be solved was not the present supply, but the future supply, as the title of the Paper indicated, and, that being so, it seemed to him that the whole of the advailable statistics were, as regards the future, mere matters of speculation.

The points to be considered were what was London likely to grow to, and when would it reach the size at which a further source would have to be tapped?

Of course in considering the question of water supply to London, or any other town, one must have regard to the four prime considerations which Mr. Hunter had so well laid down. The first was quality, and on that point he thought it safe to say that the quality was rapidly improving in spite of the increase of population on the banks of the Thames. The Thames Conservancy had been armed with increased powers since 1894, and they had used those powers with vigour, tempered with a large amount of discretion. The work which they had been doing silently was, perhaps, unknown to those who were not compelled by force of circumstances to pay attention to the quality of the open river water.

But supposing the time should arrive when the Thames should fail to meet the demand of the day, was it at all sure that it would be an improvement to substitute, or even supplement the supply to any large extent with, very soft water. The character of the Thames water, it must be remembered, was during some eight months of the year, to a large extent, spring water. The inhabitants of London had become accustomed to that water, and it was with that water that the death rate in London had fallen, within his recollection, from 25 or 26 per 1,000 to about 18 per 1,000. It was clear, then, that the quality of the water had no prejudicial effect on the death rate. In speaking of even 18 per 1,000 one must not forget the lamentably high death rate in many small areas due to insanitary surroundings and overcrowding.

Then, again, soft water, as was known, very readily absorbed impurities. It was not only a solvent of lead, which was very important, but also of impurities of vegetable and other organic origin. Was the colour of Welsh water to be compared with the colour of Thames water? He much questioned, if the London Companies proposed to introduce a supply from Wales, whether an agitation would not at once be started to show people what very nasty coloured water the Companies were preparing to bring in.

Then again, with regard to the quality of water, it must be remembered that Welsh water would be simply stagnant rain-water. It would be brought to London (so it was proposed) through a covered culvert. If any one point were unanimously agreed upon by water engineers, it was, he thought, that sunlight and aëration were the two principal factors which, aided by the action of a running stream, ensured the purity of water from its source to the point of supply. Those factors would be absent in the case of Welsh water.

The question of quantity had been practically exhausted by the previous speakers, but it occurred to him that in comparing the Welsh scheme with the Thames watershed area one did not quite know their extent or the nature of the gathering ground that it was proposed to utilise. Much more information was wanted as to the capacity of the Welsh site than had yet been afforded. With regard to the Thames, the knowledge was based on the experience of a great number of years, and the best and the worst of the supply could be closely calculated.

The fourth point that Mr. Hunter touched on was the question of economy. He supposed that all prudent men would agree that it was well to be sure that all available sources are exhausted before resorting to any outside source of supply. It was quite possible that to the storage reservoirs proposed by Mr. Hunter and Mr. Middleton, Professor Robinson's scheme should be added not only for water supply but as a matter of river conservancy. It was possible, for instance, with a series of storage reservoirs extending from Hampton to the Staines water area, that it might be expedient to impound the headwaters of the river so that there might be to some extent a reduction of flooding, and at the same time of the inconvenience of extreme drought.

The question of waste he considered to be one of the greatest possible importance, but one to which the public, unfortunately, attached very little weight. One could not help regretting the amount of ignorance and prejudice brought into the question. If anything at all was clear, it surely was that every member of the community was interested in the water supply being as efficient as possible. If one man wasted his water his next-door neighbour suffered, and if these wastes were multiplied by a hundred, or a thousand, or a million, a state of affairs arose that might seriously affect London as a whole. But although the Llandaff Commission blamed the Water Companies for not having sought further powers to prevent waste, the very first argument against them was that the Companies were simply bringing in these amended regulations in order to inflate their market value. He had not yet been able to see how the revenues of the Companies would be inflated by efficiency in their service. If the fittings were defective, the making of them good had nothing to do with the undertaking, which did not include them. The only possible advantage to the Companies would be that with the efficiency of the supply there would be a certain amount of saving in pumping and such charges.

Then, again, it was urged that this waste prevention was after all a matter for the Companies. That might or might not be so, but it seemed to him that, apart from the statutory obligations, it was a matter of common sense that water should be used, not only with regard to one's own requirements, but as also bearing in mind the good of the community to whose interest it was that the water should be equally distributed. It seemed to be too often taken for granted that Water Companies must have some sinister object in endeavouring to prevent waste.

He thought that Mr. Middleton had proved his case that the supply from the Thames, the Lea, and the chalk could be developed to a much greater extent than at present. It might eventually be necessary to go to Wales, Hampshire, Cumberland, or Devonshire, but in any case prudence would dictate that the source near at hand should be utilised to the fullest extent before embarking on an unknown expenditure to meet an unknown want.

MR. BASIL ELLIS (Visitor) said he wished simply to speak on the matter as an ordinary inhabitant of London. He was not able to deal with the subject in the authoritative and exhaustive way in which it had been dealt with by Mr. Hunter and other speakers, but he would remark that, in his valuable Paper, Mr. Middleton referred to some very important points in dealing with the question of water from Wales. There was apparently a very vague idea in the minds of many persons that if London only went to Wales for water there would there be found a practically inexhaustible supply; but Mr. Middleton had shown that this was by no means the case, and that with regard to cost an equal supply could undoubtedly be brought from the Valley of the Thames at a far lower cost than from Wales. He was able to say, having been almost from boyhood engaged in the practical carrying out of waterworks, that he was convinced, in view of the cost of works that had been carried out for the Manchester Aqueduct, and also for the Birmingham Aqueduct, that water from the Thames Valley could be brought at far less cost than from an outside source.

Mr. R. BALDWIN-WISEMAN (Visitor) said he should like to say a few words on the possibilities of the chalk. In the discussion of the comparative value of pumpings in sandstone and in chalk, the nature and relative rate of flow in the two rocks was often insufficiently considered. In the sandstone there was a free flow through the interstices between the grains, whilst in the chalk it was much more complicated and devious, owing to the capillary action of the pores, notwithstanding that the relative space per unit volume was greater.

Some five years ago Professor Boyd Dawkins took a sample of chalk from the Whitewells well of the New River Company; weighed it next day after a journey to Manchester, during which time some of the water must have evaporated, and weighed it again after 114 days, in which time it had lost 2·542 gallons of water per cubic foot, or ·398 of its bulk; this as against a maximum of ·352 for ordinary compact sandstone, such as the new red sandstone, gives the chalk an advantage in storage capacity over the sandstone of at least 13 per cent., and possibly with many specimens 20 per cent. would be a better working figure.

The same sample of chalk, when re-wetted, took up 2·437 gallons of water per cubic foot, and would, he believed, have taken up its initial contents had sufficient time been allowed, the air admitted in the process of drying being difficult of expulsion from the smaller pores. However, taking these figures as correct, we had a mean of 2·489, or $2\frac{1}{2}$ gallons of water per cubic foot of chalk, which figure applied to the 150 square miles of water-bearing upper chalk of the Lea Valley above Fielde's Weir, with an average thickness of 200 feet, gave a storage capacity of 3,484,750 million gallons of water. Considering the matter from the point of view of percolation, and taking an average percolation of 10 inches over the whole 350 square miles of the drainage area of the Lea, we found a storage capacity equal to a daily supply of 139 million gallons, or ·0039 of the storage capacity previously calculated.

The Commission figures of 47 and 56 million gallons per day, equivalent to a percolation of 3·42 and 4·03 inches respectively per annum, seemed from the previous considerations to leave a fairly wide margin of safety.

The argument involving a ratio of the water at present pumped to the calculated storage capacity of the strata did not seem exactly fair, as the figure was practically a function of the pumping capacity, and if the pumping stations were sufficiently duplicated so that the cones of depletion did not intersect, the ratio of pumping to rock storage could be considerably increased, In the average case the radius of the cone was about a quarter of a mile, but where the strata were fractured it might have a maximum extent of a mile, and thus a chain of stations two miles apart along selected lines would give a maximum efficiency. Essex county must be able to supply itself and perhaps help its friends for some time yet, as one-ninth of its total area was occupied by the chalk, the remaining eight-ninths being clay underlaid by chalk, much of which clay served as an umbrella to send its run-off into the chalk at its edges.

The beneficial effect of chalk water in building up the bony matter of the body (in preference to that derived from slaty areas) should, he thought, far outweigh the minor discomforts incidental to its use in boilers and for domestic purposes.

Mr. T. Hennell (Visitor) said that the storage of Thames water was a subject which for a long time had been very fully considered, but he ventured to say almost entirely from the Water Companies' point of view, and not from that of the ratepayer and consumer. There had been three Royal Commissions. First, the Richmond Commission of 1866, when the storage of Thames water was first spoken of, but only as an idea. Then after a long interval Lord Balfour's Commission, which was specially appointed to inquire whether the present sources were adequate or inadequate in quantity; and that of necessity raised the question whether the Thames water could be stored with advantage. The Commission did not go very fully into the question. They considered two schemes which were laid before them, semi-officially perhaps, and took official evidence on other parts of the subject. When the Staines scheme came before them they did not seem to want to go any further, and the speaker whose scheme has been for some time in their hands, received a very courteous letter, saying that his evidence would not now be required, and if they understood their duty to be simply to answer the question whether Thames water could be or could not be stored, they had then no doubt sufficient evidence before them. There the matter appeared to have rested.

After an interval came Lord Llandaff's Commission. Very important questions were submitted to that Commission, but that of Thames storage was not among them, and they began by saying that they should not reopen questions which had been decided by Lord Balfour's Commission. No doubt, however, in the end they found it necessary to go into the Welsh scheme, and to some extent also into the matter of Thames storage. He was not aware of this, and was therefore considerably surprised to find in their Report the following paragraph:

" No site was suggested to us where the water of the " Thames, when it is in flood or high, could be taken by " gravitation and without pumping into storage reservoirs. " If such a site could be found, free from serious obliga- " tions as to supplying compensation water, it would " present a double advantage—the cost of pumping to " store would be saved, and it would be possible to take " much more water into the reservoir when the river is " full, as the intake would not be limited by the capacity " of the pumps, which cannot deal with more than a " fraction of the water passing down at times of flood." That sentence embodied precisely the point to which he would wish to call attention. When the Thames was in flood it ran at the rate of 10,000 million gallons a day. That was the extreme, and pumping could only take a mere fraction of that quantity. Practically the whole of it ran uselessly into the sea, but by a system of storage by gravitation the greater part could be taken in. By that system the whole of the 300 or 400 million gallons could be taken at the time when the flow of the river was considerably above the average, and depletion of the river would not be carried to a serious extent, even in the tidal portion. There would, of course, be no depletion at all above Hampton. The water would be taken in by intakes at various points, and would be returned out of store into the river itself to equalise its flow, and would come down by it to Hampton.

Such a system would show a considerable advantage as to cost. It was obvious that water taken by gravitation would be less expensive than if pumping were necessary, and that an embankment across a valley must be less expensive than one all round a reservoir, or even round three sides of it. Professor Robinson said that a storage reservoir for 15,000 million gallons could be constructed at a cost of £850,000, being £56 per million gallons.

He could not himself find it possible to reduce the cost so low. In an estimate he had made, it worked out at about £150 per million, which he believed compared very favourably with the cost of the Staines scheme. It was also a system that could be carried out by instalments, not by one enormous reservoir made all at once, but by instalments of 2,000, 3,000, or 5,000 millions at a time asrequired.

With regard to the Staines Reservoirs, he had had great pleasure in going over those works, and they were being very admirably carried out, and were precisely the right thing from the point of view of Water Companies, who would take the water direct from the reservoirs. It would be impossible to get the Water Companies to carry out works for impounding water to be returned afterwards to the river and taken by everybody. He thought the Staines works would be very valuable as a first instalment. The point was to store against floods as well as against drought, and to maintain the flow of the Thames at a certain quantity. In order to do this, when the level fell more rapidly than usual, some of the water must be near at hand and ready for use. It might take four days to come down from Reading, and from above Oxford it might take a fortnight. He thought, therefore, this scheme would prove to be very valuable as a first instalment, but the point he should like to emphasise was that after that, the system of storage by gravitation should be adopted. Between Reading and Oxford it was not, he believed, possible, as the geological conditions were so unfavourable. After the Staines system was completed, the flow of the river could be equalised during a long period of its course. But by whom was this work to be done? He could not help thinking that the proper authority was that which had the duty of purifying the river. The purifying of the river, to which he attached the greatest importance, seemed to him a thing that should go with storage. The River Conservators should store the water and supply it to the Companies which distribute it. Either this, or the future Water Board should also be made Conservators of the Thames and the Lea.

Mr. C. C. Hutchinson (Visitor) said it seemed to him that Mr. Middleton had struck the keynote of the question in confining his Paper first to the quantity of water which ought to be provided for the needs of such a population as London was likely to have, and secondly the source from which that supply could, having regard to all circumstances, best be obtained.

He was glad to see that his learned friend Mr. Baggallay had brushed away a good many useless cobwebs from some of the arguments adduced, which only tended to obscure the real matter, and had pointed out the strict lines the discussion should follow.

First, as to the quantity of water required for London. That of course, as the author of the Paper had pointed out, was a problem which depended very much on a forecast of the numbers of persons who would in future inhabit London, and he should like to remark that although the estimates which Mr. Middleton had given might to some extent be said to be excessive, yet, having regard to the problem to be solved, as the greater included the less, the sources that were adequate to meet Mr. Middleton's figures would still better supply a smaller population. That being so, the much larger question arose as to the adequacy of the source of supply, and this appeared to him to resolve itself into a consideration whether it was wise to turn away from the water supply which undoubtedly was at our doors, and to go very far afield to another source.

He was not at all prepared to admit that it was wholly in accordance with moral ethics to insist that we were entitled, simply because a large body of unappropriated water, existed somewhere, to take that water from where nature had placed it and divert it to another part of the country for the use of another community, and in discussion no case had been produced on hydrological considerations to warrant our taking water from a small area in Wales and bringing it to London. Even with such a population as Mr. Middleton had allowed for, he had shown that all the water necessary was to be obtained from the Thames and the Lea, and from wells near the metropolis.

It appeared to him to be beside the question from a practical standpoint to say because water was drawn from the Thames (a source which had at one time been looked upon with suspicion), that such a supply should be condemned merely by statements that all such sources were sources of mud or sewage. He remembered being told in an American hotel, when he found the water decanter half filled with dark brown mud, that the water certainly was thick, but it was very healthy.

It seemed to him with regard to the American water supplies, which had been put in evidence as a proof of extra cleanliness, that a large supply did not necessarily lead to that conclusion. Again it must be remembered that 100 gallons per head in America was only equal to 80 English gallons.

In arranging for the domestic supply of London, the fact must not be lost sight of that storage, especially in large quantities, materially helped purification. It was stated, even by Sir Edward Frankland, than whom there was no more deadly opponent to impure water, that so far as the water of the Thames and the Lea was concerned, filtration and purification had put those sources beyond the reach of suspicion. It was true, as he pointed out, that the only source of infection of such water was by the discharge of contaminated water from the higher watersheds, but with such a system of storage in large quantities as that proposed by Mr. Middleton the risk from pathogenic organisms hardly existed.

It had been proved that Thames water, in which there were about 8,000 or 10,000 organisms to the cubic centimetre, by an efficient means of storage and filtration, such as was now used by the London Water Companies, was purified to the extent of containing only some 14 to 20 to the centimetre. It seemed to him it was even better in some respects to trust to a water-bearing area that required to be constantly looked after with a great care because it was known that it might become polluted, rather than to put a false trust in the idea that absolutely pure water could be obtained from an area which was thought to be beyond the possibility of contamination, but where, as his friend Mr. Mansergh had pointed out, a single shepherd on the hills might be able to communicate disease to the inhabitants of the whole of London.

He thought therefore that Mr. Middleton had performed a very useful duty in bringing into the cold light of criticism a problem which it was well to examine on every side before steps were taken to inaugurate a great engineering scheme to bring water from a distant part of Wales, rather than to perfect and utilise a supply which existed at our doors.

Mr. MIDDLETON in reply said he had first to thank the Members for the very kind manner in which they had received his Paper, and next to especially thank the speakers for the flattering terms in which they had alluded to his efforts to throw some light on the subject.

As had been pointed out recently by another speaker, Mr. Baggallay had ably put the question in a very few words: "Was London to rely on the Thames and the "Lea and on wells as long as possible, or at once to "jump into an expenditure which *must* be burden-"some?"

He had, as far as possible, arranged the matter of his reply under certain heads, although the remarks which had been made during the discussion had, he feared, been in some cases a little discursive, and the speakers had not always adhered very closely to the matter of the Paper. First, Professor Robinson began by saying that the Paper advocated a system of storage of the water of the Thames in a way different from the system advocated by him (Professor Robinson), but he had looked very carefully through his Paper and had failed entirely to find that he had advocated any system whatever. He had avoided, to the best of his ability, going into engineering questions outside the subject of his Paper. He simply said there was sufficient water, by the use of adequate storage, to supply a given population. He had not gone beyond that.

He found no fault with either Mr. Hennell or Professor Robinson for advocating what they believed to be a superior system of storing the water of the Thames. He would go so far as to say that he could conceive that it might at some future time be desirable to supplement a system already adopted in the Thames Valley by gravitation storage. But Mr. Hennell pointed out one of the weak spots in that system, namely, that the storage reservoir should not be far from Hampton, and that therefore some system at or near Hampton must be adopted.

With one or two of Professor Robinson's remarks he felt bound to disagree. For instance, he understood him to say that both Commissions—Lord Llandaff's and Lord Balfour's—stated that the requisite storage for the supply of 300 million gallons a day would be 17,500,000 gallons. But the quantity he (the speaker) mentioned was not 17,500,000 gallons, but 17,500,000,000 gallons, and that was in respect of storage which had been already or partly constructed.

Under the particular conditions mentioned in Lord Llandaff's Report on storage, the result was 19,750 millions for a supply of 300 million gallons a day.

But Professor Robinson went on to say: "The Staines "Reservoir, now in course of construction, would store "3,300 million gallons at a cost of about 1¼ millions, which "worked out at £378 per million gallons of water stored," the same as the figures put forward by the London County Council. The cost of storage at Staines was not £378 but £184 per million gallons. If the centre bank were removed, and a single reservoir of the same dimensions were made, it would cost £155 per million gallons: if larger it might cost as little as £100 per million gallons. It was therefore desirable that he should correct those figures.

Then Professor Robinson went on to say: "Another "point in the author's Paper was that if, in the year 1931, "415 million gallons were required for the supply of the "larger population of London, it would involve a storage "of 45,000 million gallons." But he (the author) had never said anything of the kind. In 1931, supposing the whole supply to be 415 million gallons, that taken from the Thames would be only 271 million gallons and not 415 million, and the storage not 45,000 million gallons but 30,000 million gallons.

He was at a little disadvantage because Professor Robinson had not said where he proposed to make his storage reservoirs, and he could only presume that he referred to the same reservoirs as were considered by Lord Balfour's Commission, and were therefore situated on the River Kennet. The drainage area of the River Kennet was 350 square miles, or about one-tenth of the area of the Thames basin down to Hampton. It was pretty clear therefore that that area could not supply storage for 700 million gallons a day, and he thought that if Professor Robinson went into the matter a little more closely he would find, supposing he had limited himself to this area, that it would not give the supply he had estimated.

He would not go into any of the questions raised with regard to the geological aspect of the case, for this was entirely outside the Paper, but he would just make a remark about the supply in September, 1898, when it was said that the minimum flow of the Thames fell to 42·3 million gallons instead of a minimum of 200 million gallons. That figure was perfectly accurate as far as it went, but it gave the erroneous impression that this was the natural flow of the Thames, which was really 177 million gallons a day. The average flow of the river for the month of September that year was 212 million gallons a day, the difference, or about 134 million gallons a day, was the water pumped by the Companies at Hampstead.

The gravitation storage reservoirs were constructed and worked on an absolutely different system from those proposed to be constructed and in course of construction at Staines: the latter did not give any compensation water to the Thames at all. What was done, and what they were bound to do, was not to take any water when the flow fell below a given amount at Penton Hook Weir. There was no guarantee that the water should never fall below that amount, but none was taken when it did. It would be necessary to give compensation, water to the bed of the River Kennet, and that would have to be taken from store during part of the year, and would therefore reduce the available supply, which was not the case in the Staines Reservoirs. Shortly, it might be taken that the storage required for the Kennet for a given supply of water would exceed that under the conditions used at Staines.

It was said by Mr. Hennell that the water question had only been considered from the Companies' point of view. He thought that was scarcely true, or at any rate, if it were true, it was obvious that the Companies were endeavouring to do the best for themselves and their customers in providing an ample supply of water. He also said that the maximum flow of the Thames was 10,000 million gallons, whereas the maximum was 20,000 million gallons, and the average flow for a month was about 6,000 million gallons. He also said that there would be no depletion of the river if the water were stored by gravitation, but it was obvious there was a considerable depletion, although it was less at one time and greater at others—for instance, in the case of the Welsh reservoirs, it was only by supplying compensation water in a very dry year that there would be any river at all, because every drop of the water would be taken into the reservoir.

Then Mr. Hennell said that a reservoir constructed by making a dam across the natural valley was necessarily cheaper than where a bank had to go all round or on three sides. He (the author) must again differ. There were several reservoirs where the bank was round three sides, which were more cheaply constructed than where a dam was made across the river bed.

To deal now with general points: the first question was that of population. Messrs. Lovegrove, Hassard, Lucas, and Morris did not consider that the population would increase so rapidly, and a number of other speakers had taken the same line, and had pointed to the uselessness of statistics, and so on, but it was a curious thing that they did not appear to grasp the fact that he (the author) said exactly the same thing himself—that he did not believe population would increase so rapidly, but the Royal Commission, after very careful consideration of all points, accepted the particular rate of increase, and because they accepted it he had followed it out. He said the idea that London would ever number 18½ millions, let alone 30 million persons, was exceedingly improbable; and if that were true his position was enormously strengthened. If that population would never be arrived at there would never be any necessity to go to Wales at all. The time during which these works on the Thames and the Lea and the chalk area of Hertfordshire and Kent would last would not be until 1961 only, but until an indefinite period.

Then Mr. Vernon Harcourt saw no reason why a calculation should not be based on those put forward by the Royal Commission as well as any others, and said it was wise to look ahead, by which he meant to say that land in Wales for the construction of reservoirs at some indefinite future period should be bought now. If anyone liked to go into speculations of that kind he did not know of any objection, but he did not see why the ratepayers should pay for it—why we should take land in Wales for the benefit of people who might want water from there in the next thousand years or so, or who might never exist at all. He had not, as Mr. Lucas said, suggested an area of 33 miles in diameter, full of people. He gave the density in the County of London at the present date, and said that if in a Greater London there were the same density there would be a given population

He noticed that Mr. Whitaker agreed with him in considering London fortunate in having a supply so near at hand.

Other speakers seemed to be under the misapprehension that because Liverpool, Manchester, and Birmingham were going to Wales or Cumberland for a supply, London ought to do so also—he supposed because London was bigger. But why did those other towns go to Cumberland and Wales for their water? The reason was because they had not got it near, and they were obliged to go far afield. But London had got it, and plenty of it, within reach, and there could be no argument to prove that we should neglect the water at our doors for a supply which, as he had said elsewhere, was of limited quantity, while water of different quality, but as good, can be had from the Thames, the Lea, and the chalk wells.

He would say a word or two with regard to the supply from Wales and Cumberland. He was a Cumberland man himself, and he knew the Cumberland fells pretty well. Did anybody present suppose that the water they were going to get from Wales, or that the Manchester and Liverpool people were getting from Wales, would be as bright and clear as that which was in the water bottle now before him? Not at all. The water was peaty. Sometimes it came down like porter, and nothing could make it as clear and bright as the water Londoners were used to. The thing was not practicable, and no amount of bleaching would do it.

He remembered that, in Manchester, it used to be the case, if it were not so now, that at all the best hotels they provided water bottles and tumblers of coloured glass so that one could not see the colour of the water.

Then Mr. Whitaker and Mr. Shaw considered 52½ million gallons the full supply obtainable from the Lea, but he could not quite agree with them, for the obtainable supply in the Lea was about 68 million gallons a day, but the Balfour Commission thought if they took 52½ million gallons it was going about as far as they should. The East London Water Company were making their new reservoirs in the valley of the Lea for the purpose of giving a supply which, with the New River Company, would make up 52½ million gallons a day. When Mr. Whitaker mentioned 47 million gallons pumped from the Lea basin he must have meant that it could be pumped, not that it was being pumped.

The estimate of supply was considered by Mr. Lucas to be illusory. The estimate, except in regard to one item, was based on a statement given by the Royal Commission, and they were not his (the author's) words that Mr. Lucas attacked, but those of the Commission.

Then Mr. Lucas, Mr. Whitaker, and Mr. Hill contended that the time must come when a supply must be got from Wales, and they suggested that he (the author) had said so. But what he really said was that if the population of London never reached more than 19½ millions of persons we never need go to Wales at all.

The time need never come unless the population exceeded that which he had estimated, and they had all agreed that the chance of that number being exceeded was infinitely small.

Then Mr. Lucas went on to say that half of the Thames flow would be taken, but three-quarters of the Welsh flow during three dry years would be taken and the whole in the driest year. As a fact, with a supply of 400 million gallons from the Thames, the quantity taken would be 40 per cent. of the average dry weather flow. At the same time the Welsh supply would be taking from the rivers of Wales 75 per cent., and in the driest year of all the whole of the Welsh flow (or 98 per cent. of it) would be taken.

Certain tables were given by Mr. Lucas, for which he had to thank him very much; but Mr. Lucas questioned the figures of the drainage area to Teddington and Hampton. He spoke of these as his (the author's) figures; but if he would be kind enough to refer to paragraph 132 of the Royal Commission Report of 1893 he would find that the authority in the first case was

Mr. More, the engineer to the Conservators, and Sir Alexander Binnie, the engineer to the County Council, who closely agreed with Mr. More, and the second figure was given on the authority of Mr. Topley.

Mr. Lucas asked leave to interrupt Mr. Middleton on that point. With regard to the area above Hampton on two engineers had agreed or ever would agree, simply because the boundary was not known. No engineer had a true knowledge of the history of the basin of the Thames above Hampton, and therefore they could never agree.

Mr. Middleton, continuing, stated that he merely said the figures were not his, but the first figure was that of Mr. More's, accepted by the Royal Commission, and the second that of Mr. Topley, also accepted by the Royal Commission.

Then Mr. Whitaker disagreed with his estimate of the probable number of persons who would have to be supplied in Essex, but that speaker had, he thought, failed to see on what basis the calculations were made. He had taken the population where it was necessary to draw water from the source from which they would naturally get their supply, and he had added that population to London, whether that population was miles away from London or not, so long as it were not above London.

A considerable part of Essex was at present supplied by the South Essex Company, who drew their supply from sources at Grays and Romford, neither of which was wanted for the supply of London. A good deal of that population was within the area of the supply of the Companies, and therefore, even if that same population had to be considered in the future, it was already calculated in the area of supply, and he still adhered to the figure given, that if 100,000 persons be added for Essex it would be sufficient.

Then Mr. Whitaker said Surrey would give no water. They wanted it all for themselvәs. He (the author) did not doubt that, but if they used it for themselves they were already giving water for the supply of London, and every drop given in that way was in reduction of the quantity that had to be drawn from the Thames, or the Lea, or elsewhere.

Attention was called to the rainfall in Wales, by Mr. Cowper Coles, who said he (the author) had put it down at 40 inches when it should be 55 inches. He thought he explained at the time that he had given the run-off from the drainage area at 40 inches and the rainfall for these dry years was 55 inches, and in doing so he found he had put the rainfall rather too high, as the avilable rain in the Elan Valley is taken by Mr. Mansergh as 36 inches.

Then Mr. Lovegrove also called attention to some remarks he made as to the quantity of water used for beer being infinitesimal, and not worthy of calculation. He (the author) still adhered to his point. If every person, man, woman, and child, in London drank one pint of beer a day, all made from water supplied by the Companies or pumped up from other sources, it would represent but little over half a million gallons per day.

To refer now to the question of quality. Several speakers had praised the Thames water, and Mr. Paskin said it was perfectly wholesome, and the inhabitants were used to it; whereas water from a peat gathering-ground, such as Wales, was acid, and objectionable as drinking water. It acted on lead, and was therefore dangerous, and far from colourless.

But Mr. Lovegrove was averse to the use of Thames water, and referred to the years 1865 and 1866. He (the author) had done a good deal of rowing on the river in those years and since, and it was different now to what it was then, and he did not think there would be found at the mouth of the Kennet, or "Dead "Dog Reach," as it used to be called, such pollutions as formerly existed. The Thames had enormously improved of late years, owing to the action of the Thames Conservators under their Act of 1894.

Some remarks were made as to the Thames being a pleasure resort, and it was said that therefore it should not be considered only as a great river, but as a great pleasure resort, and some mention was made of houseboats, evidently under the misapprehension that houseboats were perfectly free to discharge all their refuse into the river. But the Thames Conservancy were seeing to that, and did not allow them to do it. The refuse from the boats was not allowed to be passed into the river, but had to be put on the banks under supervision.

As to its being a pleasure resort, so it was, and long might it remain so; but if the flow at Teddington was only 10 million gallons a day, it would not interfere with the use of the river as a pleasure resort. It would be as good a rowing river as before, and the water would stand as high. The water was held up by several weirs, and its depth depended not on the flow but on the height of the weirs.

Then Mr. Lovegrove referred to the return of water to the river and said that required consideration, and that we ought to look to the fact that the water, when returned to the Thames at Barking and Crossness, contained sewage. So it might, but he did not think that had anything to do with the water above Hampton, which was what he referred to. The water returned to the river which he was speaking of was that which gradually percolated through and found its way into the river after passsing through the soil for a long distance.

A good deal had been said about soft water in Wales and hard water in London, and Mr. Hassard, who was the originator of the Welsh scheme, said that the Welsh water was too soft and that hard water should be added, and therefore advocated a supply of a certain quantity of water from the upper valley of the Thames to be added to the Welsh water in order to give it a hardness of five degrees, but it must be remembered that the advocates of the Welsh scheme had abandoned the system which Mr. Hassard advocated and had gone in for Welsh water only. Persons who used peaty water, and who were not accustomed to its use, were frequently affected with diarrhœa. It was well known that in Cumberland and Northumberland, where they used soft water, the men were big and big-boned, and it therefore could not be necessary to have hard water to make big bones.—something else had done that. If one put a south countryman to drink soft water it would disagree with him at first, and if a north countryman were to drink the hard water of the south he would say he could not wash in it or make decent tea with it; but both would get accustomed to the water and would be able to use it, though they might never like it.

Then Mr. Lovegrove considered that Glasgow had a model supply. He begged to differ from him. He thought if he went to Glasgow and examined Loch

Katrine he would find a good many residential properties on parts of the lake (and those properties were all drained into the lake) and that there was a certain amount of sewage in the lake and the water was unfiltered. The water was very unlike Thames water. It was highly coloured at times with peat. It was also dangerously and objectionably soft, and he must therefore dissent from Mr. Lovegrove in considering that Glasgow had a model supply.

Dealing with the question of storage, Mr. Paskin compared the depth of the reservoirs in Wales with those on the Thames, and said the depth of the former would be less than the latter. That was true to the extent of about 10 feet. Then he said that the storage capacity in Wales would be the same as that of the Thames. In that he was mistaken. The storage capacity in Wales necessary to afford the same supply would be more than double that of the Thames.

He of course agreed that banks should be safely guarded and should not be too high. But economy put a limit to the height, and a reservoir to contain, say, 10,000 million gallons would not be economically made if made with banks higher than 40 feet, *i.e.* with a depth of more than 40 feet in them. He was speaking of the class of reservoirs constructed in the Thames Valley.

Then Mr. Paskin referred to the storage, which he said should amount to 150 days' supply, and spoke of 450 million gallons, but it was never considered that 450 million gallons would be necessary. He (the author) had only taken 415 millions. It was not possible to give an exact figure, but the storage for 300 million gallons supply would be about 3,000 million cubic feet, not 11,000 million as suggested by Mr. Paskin. For

485 million gallons supply, the storage would be about 6,000 million cubic feet.

With regard to cost, Mr. Hunter had already explained that the figure given by Professor Robinson, of 9 millions to 10 millions for water supply in the Thames was not for storage only, but included many other things. Mr. Hassard said the cost of the Welsh scheme would be, for a supply of 415 million, £38,800,000, but he thought, if he would be good enough to go into it, he would see there were many items that must be included in the cost which were not provided for by that sum. There was no amount put down for interest during construction, which in 15 years would come to about £10,000,000. There was nothing put down for connecting the supply with the service reservoirs all over London, which would cost another £6,000,000, which brought the sum up not to £38,000,000 or £39,000,000 but to £54,000,000, and according to his estimate that was still too low.

Estimating by analogy from the Liverpool, Birmingham, and Manchester supplies, the cost of storage, including charges for interest, was 2·8 to 1 compared with the Thames. Colonel Rathbone went into this cost, and he himself had made it 2·3 times that of the Thames.

The question of wells had been referred to by a good many speakers. The Royal Commission had dealt with that matter. Mr. Ashton Hill referred to wells sunk in the sandstone, which was a quite different matter from the chalk. In the valley of the Thames and Lea, putting London on one side, there were at least 50 pumping stations, producing 90 million gallons of water for three months together, and if that number of pumping stations were multiplied by four he would have all the water he had referred to, and if it were possible to work 50 pumping stations he did not see why it should not be done with 200 stations.

Then there was a question as to whether water in the chalk was in a reservoir or a flowing stream, but if there were a gradient at all it must be a stream. Moreover, if, as was said, there was a great depression under London, how was it that this depression under London did not extend beyond the confines of London into Hertfordshire.

Then Mr. Shaw produced some arguments to prove that the pumping in the Lea Valley affected the river; but he (the author) gave figures to disprove that statement. It was shown that the proportion of run-off to rainfall for 1897, 1898, and 1899 was almost exactly the same as 1863, 1864, and 1865; 1864 was worse than 1874, and yet in 1897 to 1899 the proportion of run-off to rainfall was higher than in 1863 to 1865, and it could not be argued that there was any depreciation of the river Lea by pumping.

Then Mr. Shaw produced some arguments to prove that the pumping in the Lea Valley affected the river; but he (the author) gave figures to disprove that statement, and said he was prepared to furnish further proof if necessary. It was shown that the proportion of run-off to rainfall for the years 1893-4-5 and 1897-8-9 was as 21·2 to 100, while for the periods 1862-3-4 and 1863-4-5 it was as 20·7 to 100; therefore the earlier period of drought, when there was practically no pumping, affected the river Lea more severely than during the later years, when from 18 to 37 million gallons of water or more were pumped from the Lea Valley daily for three months together. It could not therefore be argued that there was depreciation to any calculable extent by pumping.

It was suggested by Mr. Shaw that there used to be active springs near Hoddesdon which were no longer active, and that the Chadwell Spring failed in 1898.

The Emma Well or Amwell Spring, which was, it is believed, one of the sources of the New River, did run in years gone by and runs now, except when pumping to a considerable extent is carried on at the Amwell Hill and Amwell Marsh pumping stations, when this spring, along with other smaller ones close by, partially or wholly fails. As had frequently been pointed out by him, any spring within the cone of exhaustion of a well in active operation would fail, and to this very small extent the river was depleted, but the depletion was quite visible and calculable.

With regard to the Chadwell Spring, it did fail both in 1898, in 1899 and since, to the extent that it did not overflow; but in any other sense it did not fail, for the New River Company were able to pump some 500,000 gallons of water from it into the New River.

No doubt, as the spring did not overflow, the water of the New River would have kept it full, and might have flowed back into it if it had been allowed to do so, but it was stopped off.

The Chadwell Spring was within the cone of exhaustion of at least two of the New River Company's wells and might therefore have been depleted by them; but whatever be the cause of its sinking to a lower level than previously, it had not for more than 200 years added to the waters of the River Lea, and cannot affect that river.

There was no dispute as to the extreme drought of the years 1898 and 1899; this was proved both by the gaugings of the rivers and by the rainfall; but the Thames suffered as much or more than the Lea, and the run-off of the latter river was greater in proportion to the rainfall during the years 1897-8-9 than it was in 1862-3-4, a period of great drought.

It must be repeated that the theory of cisternage was disproved by its own advocates. The depression of the water under London itself (while there was no such depression in the chalk formation in its immediate outskirts), and the fact that the Hertfordshire rivers rose at their highest points so recently as 1897, disproved it, and the latter fact showed that the rivers had not been depleted by any artificial cause, but were affected by seasonal changes only.

It was quite conceivable, as was argued by Mr. Whitaker and Mr. Ashton Hill, that there might be a difficulty in securing all the available water which could safely be drawn from the underground sources mentioned. It was well known that under certain conditions, as where the chalk was weighted with a heavy mass of clay, where it was little broken up or fissured and from other causes, it was difficult to secure more than a very moderate quantity from any individual well; but as most, if not all, of the wells sunk by the London Companies, supplied large quantities of water, averaging something like two million gallons a well, and as, without increasing the number to an inordinate extent or covering a large area of ground they did already pump on occasion for three months together three-fourths of the estimated available supply from a given district, there was no reason to suppose that the further supply estimated by him to be obtainable from other districts could not be got from the contemplated area.

The Kent Company supplied, from wells only, a far larger quantity of water than is provided for the Staffordshire district. The fear expressed by Mr. Ashton Hill of complication, &c., might, he thought, be dismissed, especially when a reference to Messrs. Lass, Wood, and Co's tables would show that the working expenses of the Kent Company were lower per 1,000 gallons of water supplied than any except one of the London Companies.

It was encouraging to find so many of the speakers advocating the prevention of waste, especially as the subject seemed to be entirely misapprehended by the public generally.

One of the speakers considered it necessary that every man, woman, and child should use 60 gallons of water a day for ablutionary purposes. It was doubtful that the speaker would find many doctors to support him in his view, and it was obvious that if a man required 60 gallons, an infant did not require the same quantity, and it seemed like advocating culpable waste; but the gentleman appeared to think that the Companies, quâ Companies, had some power which a different authority would not have to prevent his using 60 gallons of water a day for his bath. Let it be granted for the moment that a man did require 60 gallons of water in which to submerge himself, though this was doubtful, the Companies had no power whatever to prevent his using it, nor had they any inclination, even if they had the power, to prevent the proper and legitimate use of water, but they and every authority should have the power to prevent waste which did not benefit the consumer, but injured him and the public generally.

Water was laid on under constant pressure, practically throughout London, and every individual could take all he could use. As a fact much more was taken than was used, and this was waste.

Waste arose from many causes: there was first of all a certain amount of underground leakage from mains and service pipes always going on, which benefitted no one and injured the subsoil; then there was leakage due to taps which were not quite tight, and a dribbling tap would run many gallons of water in a night; then there were taps not properly turned off or deliberately left running which might waste some hundreds of gallons of water a night each; there were ball-valves which owing to their weak construction allowed water to rise in the cistern to a level above the warning pipe; this was a common source of extravagant waste and often of annoyance to the tenant or owner of the house. There was another form of deliberate waste which caused much good water to run away for no useful purpose, namely where garden hoses or sprinklers were allowed to run all night.

Water wasted in any of the ways mentioned above, or indeed in any way, did no good whatever to the consumer; it was frequently a cause of considerable annoyance, and was actually injurious in a way which as a rule he did not grasp.

London some years ago spent some £6,000,000 of money in providing for the main drainage of the Metropolis; every vestry had to lay out large sums for the drainage of each separate area and to connect it with the main drainage system. The yearly cost of maintaining and cleansing the sewers, of pumping, treating, and disposal of the sewage, was enormous, and already the main drainage was becoming unequal to the duty it had to perform, because the quantity supplied to London was unnecessarily large; if there was no waste the sewers would be equal to their duty, with waste they were not.

The water supplied to Manchester, Liverpool, and

Sheffield was quoted by Mr. Hunter, and averaged 29 gallons per head, but the water supplied for trade purposes in these towns was far larger than that used in London; notably was this the case in Sheffield, and it was was doubtful if the water used for purely domestic purposes exceeded 17 gallons per head of the population.

It was matter of experience that Corporations did put down waste with a strong hand, and rightly, in the true interests of the community.

The metering of the water supplied for domestic purposes was, Mr. Statham said, the natural and logical deduction. This suggestion had been made repeatedly, but had not found favour in this country, and a few remarks on the reasons for this might not be out of place.

Rightly or wrongly, the policy of Parliament in granting powers for the supply of water had been to apportion the charge relatively to the rateable value of the house occupied and the conveniences given, but irrespective of the quantity of water used. The effect of this was that in a house, the rateable value of which was great, say £1,000 per annum, where there were three baths and five w.c.'s, the charge for water was £33 18s. per annum; in a £100 house, with two baths, and two w.c.'s, £5 4s.; in a £20 house, with one bath and one w.c., £1 8s.

Should the water be supplied or paid for by meter at, say, 1s. per 1,000 gallons, and the charge would probably be higher, meters would have to be provided.

There were about 915,000 houses, and the supply and fixing of meters would cost about £4,000,000.

Then even allowing that the £1,000 house was occupied all the year round and the use of water was somewhat lavish, the yearly charge would amount to £6 5*s*.

For the £100 house to £3 13*s*.

For the £20 house to £3 3*s*.

The charge for water to the £20 householder would thus be increased by 236 per cent.

The present system provided for a payment by the richer members of the community which enabled the poorer householders to use water freely, which if they had to purchase by meter at a much higher price they might be tempted not to do.

The support of so able a speaker as Mr. Whitaker to his statement that for purposes of water supply and drainage the existing divisions of the country into parishes, unions, urban and rural districts, and counties should be abandoned, and that a division into drainage areas should be substituted, was much valued.

To sum up, there was a consensus of opinion that the population of London was never likely to reach 18 or 19 million persons. If such should prove to be the case there need never be a resort to Wales for water, for an ample supply for that population could be found in the valleys of the Thames and Lea, and from wells sunk in the valleys of the Thames, the Lea, and in Kent. The quantity therefore was sufficient.

The quality of the London water was admirable, as was testified to by many speakers, and was in many respects better than that procurable from Wales, and it was still improving.

The cost of a supply from the home districts would be far less than if water were brought from Wales.

If, as he believed, the problem of the future of the London water supply was answered (and the statements he had made were for the most part given on the authority of the Reports and documents connected with the Royal Commissions presided over by Lords Balfour and Llandaff) why undertake an expenditure which cannot fail to be burdensome, and why, under any circumstances, assume an unnecessary burden before it was necessary to do so, and before, by increase of population and in rateable value, the burden which would now be onerous would be, comparatively speaking, light.

The Meeting then adjourned.

PAPER 262.
No. 422.

THE PRESENT CONDITION OF THE BUILDING INDUSTRY.

By THOMAS BLASHILL, F.R.I.B.A., FELLOW.

Read at the Ordinary General Meeting of THE SURVEYORS' INSTITUTION, *on Monday, February 25th*, 1901.

SIR JOHN F. L. ROLLESTON, M.P. (Vice-President), in the Chair.

THE CHAIRMAN: Before we commence our proceedings I think it is only becoming in me to refer to the great loss that this Institution has sustained by the death of our Chief Clerk, Mr. Bennett.

I am sure all the Members will recognise his many good qualities—his unvarying courtesy and his long years of devoted service—and will agree with me in expressing to his widow and son our deep sympathy with them in their affliction.

MR. BLASHILL'S PAPER.

It has seemed to those who are best entitled to judge that at the dawn of the new century the condition of the industry in which so many of us are interested, and through us the public, may usefully be brought under review. Some few of us can look back to a connection with it extending over 50 years, during which time practices and policies old and new have been worked out toward their results. But our references to the past, however interesting, must be restrained in view of the more absorbing present, and of that future which, unwarned by the fate of older prophets, we shall no doubt be tempted to forecast.

The surveyor has peculiar qualifications for dealing with this question in all its aspects. His occupation touches the business at every point; he is personally uninterested; he has been trained to fair and impartial dealing, and he moves in a sphere where, without accuracy, all other virtues count for nought. Thus equipped, we may reasonably hope, with the assistance of our visitors, to deal profitably with the more prominent features of this important subject.

I will begin by insisting upon one radical difference between the crafts which make up the building industry, and the class of solitary trades or manufactures. It is likely that he who was first to foresee the usefulness of a house had to design and build it for himself. It would be the realisation of a single, simple, complete idea. But, however complex the idea of a house may have now become, and no matter how many of us may be employed over it, it is still a single and complete thing that is wanted, our separate contributions towards it being useless if they stand alone. It is their combination that gives them value. The architect, the mason, and the carpenter are by no means to be looked upon as so many isolated artists, like the statuary, the potter, or the coppersmith. Unless each worker should understand his fellows and look beyond his own department to the scheme as a whole; if any should act stupidly or maliciously, or if they should quarrel among themselves, it is not one particular part of the building that will be damaged, and it is not a particular class that will suffer, but the whole. I need say nothing to enforce this very obvious lesson.

Before we consider the details of our various arts and crafts, and the arrangements for their harmonious working, it may be well to give some thought to him who sets us all to work, but who, standing outside this co-partnership, is, perhaps, in danger of being overlooked. In a building contract he is styled the Employer, a term which we want for the builder or contractor in relation to the workman; but the Client is really the employer of us all. It is he who feels the want of a building or judges it prudent to spend his money in that way rather than in some other. He is the source of all fees, wages, and profits. When his purse is full and open we are busy and prospering; when it is shut we stand idle in the market place. I am decidedly of opinion that he is entitled to more consideration than he commonly receives, and it is not certain that even the architect, who is nearest to him, always understands him so well as he ought.

Many of us could speak from sad experience of the difficulty of getting from a client his real intention, and so embodying it in drawings that he thoroughly understands what he will get for his money. But this has to be done, and no pains are too great to ensure it. Otherwise he may want to alter the design as soon as he sees the building begun. A good model would be helpful to him, interesting and stimulating to everybody, and instructive even to the architect himself. I cannot go at any length into the causes of insufficient estimates, of designs that have to be cut down, or of designs that are defective and have to be supplemented; but they are the fruitful seeds of trouble between all parties, and no credit is to be got out of them.

Upon this subject there is an admirable letter, that all young architects should read, from John Wilson Croker to Decimus Burton, when, as a young man, he was carrying out the Atheneum Club and had suggested some desirable improvement. He points out that, good as the motives may be, few will hear the arguments, while all will see the extra charge, and that a young architect can hardly have a worse reputation than that of one who exceeds his estimates. An architect of whatever age who has that reputation is likely to be one with whom contractors as well as clients are dissatisfied.

If the building is simple and alterations are avoided, or if it can be easily supervised from the office, the clerk of works may not be necessary; otherwise he is indispensable. To an experienced foreman this post is usually the only promotion to which he can aspire. But it should really be promotion. To pay a man in a position so highly responsible no more, or even less, than a builder's foreman is unwise. Yet with all that has been done for the artisan little is heard about better pay for the clerk of works.

Notwithstanding what I have said and have yet to say about the client, we must remember that the architect must act fairly between him and the contractor. There are many persons who, whether in their private capacity or as members of public bodies, think it fair to take every advantage of a contractor, and expect the architect to assist. In view of such a contingency it is important that the contract, which is usually stringent enough as regards the contractor, should be incapable of being used unfairly against him. I need not here insist on the delicacy and the difficulty of the position of the architect, who has to act impartially between two parties, one of whom is his employer and paymaster.

It is very important to see that none but builders of good reputation are allowed to tender, and not too many of them. Corporations usually advertise for tenders and, although they may reserve power to reject, it is practically impossible to convince a committee, on the clearest evidence, as to the unsuitability of a builder if his tender is the lowest. A grasping client will endeavour to take the same course, but the architect should make all possible resistance.

To get a good tender from a trustworthy builder three things seem to be specially necessary: to make it perfectly clear what he will have to do and how much he will get; to avoid hampering him with troublesome restrictions and conditions; and to so draw the contract that he shall not fear the application to himself of clauses that are meant for a builder of another sort.

In order to make clear what the contractor has to do and also to enable him to go on with speed, it is now highly desirable, if not necessary, to prepare full detail drawings before any step is taken to procure a tender. This involves delay at an early stage, and it may be said that the old plan of making out details during the progress of a building, in such order as they seem to be required, is enough. But the modern system of building requires, that the contractor should get in prices of materials and should prepare for his manufacturing processes at the earliest possible date. It is very disturbing to a contractor if he is kept waiting for details till the architect thinks he wants them. A quantity surveyor will tell you that if he has them to work from both speed and correctness will be facilitated. I am assured by a leading contractor that if he can have all the details on signing the contract he will finish a job in half the time. Although this looks like an exaggeration, I am convinced that, so far at least as it relates to those parts of a building which are capable of being hastened, he is not very far off the mark.

I shall have more to say about the possibility of speedy construction, but here I will urge the immense importance of it to contractor and client and also to the architect. A client, as a rule, does not want his building twelve months or even nine months hence—he wants it now. For work not speculative the money is generally waiting at poor interest or is within easy reach. The money gain to a contractor in interest, freedom of his workshops, in supervision, and by getting his work quickly finished, is enormous. And if the architect can finish his part of the business straight off, while the thing is fresh, so that it is done before he and the client have time to change their minds, that is perhaps the clearest gain of all.

It is worth while for the architect to choose such materials and methods as will make for speed, and to clear his mind of the idea that everybody is expecting him to invent new features, even new mouldings and fastenings, irrespective of their advantages and of his client's willingness to pay the enhanced bill. It is a duty to others as well as to himself to avoid orders for variations which are confusing to the contractor's staff, are the chief obstacle to the settlement of the account, and give the enemy, and even the friend, occasion to blaspheme.

In my time, the old practice of leaving it to the builders to select the quantity surveyor has given place to selection by the architect, the builders being at liberty to decide, from what may be known of the person selected, whether they can safely accept his quantities as representing the work drawn and specified. A private client of moderate means may have to be protected from the chance of paying more money than he can afford, while he has got no more than the building agreed to be built. It is no comfort to him to be told that the quantity surveyor has made a mistake or that in settling up the job the contractor has got the best of certain arguments on doubtful points. Many clients have been seriously crippled through such means, or have even had to sell the building that they had hoped to occupy. It is the contractor's business to contract; he is a capitalist who can appreciate his risks and protect himself or stand the loss. But, in the case of a public body and of all such clients as are able to run a risk that is very seldom serious, the quantities should form the basis of the contract, and, if reasonably priced, should be the basis for settling the accounts.

Sub-letting by the contractor is properly discountenanced when there is danger of his losing control of the work or bringing upon it a person whom the architect may have reason to distrust or of lowering the quality of the work. It should be watched and kept within bounds.

There is, on the other hand, the very risky practice of introducing into a contract a great number of special works, for which the architect has made arrangements with other parties whose tenders he puts down in the specification, stipulating that the general contractor shall adopt those parties as "sub-contractors" under him and pay them the amount of their tenders. Serious misunderstandings arise out of this practice.

In such cases the contractor complains that by nominating a particular person with whom he must deal the architect deprives him of the advantage of bargaining as to price and of dealing with the firm he usually employs, and there is a group of objections and risks that may arise through the presence upon a building of the sub-contractor's workmen. But the architect acting for the client must be the person to select and to decide in the case of certain accessories and of certain artists or workmen, whose employment cannot safely be left to the contractor's judgment, either as to questions of quality, skilful workmanship, or price. I hope that the conditions of contract now under discussion between the Institutes of Architects and Builders may put this matter on as good a footing as is possible in the circumstances; but I suggest that the items of a contract needing special treatment should be reduced to a minimum. If they are very small in relation to the whole undertaking the contractor is not likely to object to them, and as to such as are left, the contractor should have a reasonable opportunity of making his profit. This, in large matters, is a source of great difficulty.

When, in a specification, I provided £1,000 to be paid to a sub-contractor for iron construction, and suggested that those who tendered should add their own profit, I found that the tender which was the lowest included nothing for profit, and that the contractor delayed payment in order to get from the sub-contractor 10 per cent. in addition to the usual cash discount. When I added to the provision £100, so that the contractor should take that as his profit, I found that he had struck the item so added out of the quantities, and was delaying payment with the same object as before. Although this could be put right by paying the so-called sub-contractor direct, there remained the disagreeable fact that the general contractor went without profit, and, as he was not a philanthropist any more than I, there was planted a root of bitterness that we could have well spared. If you buy and pay direct for any large quantity of these special materials, leaving the contractor to charge for fixing only, he will miss the profit which he thinks he ought to make on the materials, and it is a question whether either party has reason to be satisfied.

If the architect has taken pains to go to such sources of information as manufacturers' price-lists and show-rooms, trade advertisements, and building exhibitions, he ought to know what he wants, and may be able to select alternative specimens, so that the contractor may make the best bargain he can between them, so long as a lower class article is not substituted by the manufacturer for the sake of a low quotation. I had a lesson through specifying a first-class article at a price which I believed to be that which would be payable to the maker. The builder was anxious for the substitution of other goods that were manifestly inferior, alleging the unreasonableness of the manufacturer nominated, in the matter of discount. But this person produced evidence that he had offered a discount of 52 per cent. besides the usual discount for cash. I quite believe I had been allowing the full price, with 10 per cent. profit.

I am told that the secret of trade lists, with their discounts, cannot be penetrated by the architects, and that the system cannot be altered. If this be so, we should cut the knot by demanding to know at any time, from those who send price lists and offer their goods for our choice, their lowest price to a safe cash customer. If this is inconvenient to anybody, the architect should take the ground that things must be made convenient to him.

The worst feature in the system of large and varying trade discounts is that they furnish a fund out of which "secret commissions" can be paid to persons ordering for the client particular goods. I am not sure how far such practices can escape the law, but they are strictly prohibited amongst reputable architects, and the offer of them to a young architect is a snare that ought not to be set.

The best course is to let the contractor make or buy and fix every article that can safely be left to him. As to the very large and increasing item of ironwork, we have much need to keep pace with engineers in experience and technical skill. It is best to have the ironwork details calculated and completely worked out in the office, and to let the contractor make the best arrangements he can as to their supply, subject to tests that can very easily be applied. But a large contractor can buy his materials and make up his girders on his own premises. As iron construction supersedes timber construction, a builder's yard will be more occupied by smiths and less by carpenters. A modern builder's yard should be less of a storage place for bulky materials, and ought to be more of a factory. Whether that shall come to pass depends on considerations which I shall invite you to discuss.

There are two questions arising out of the ordinary routine of work under a contract, that must be considered —the faithful execution of the work contracted for and, if alterations have been unavoidable, the final settlement of the accounts.

A contract is a business document, legally binding. The specification, with the drawings, should set out clearly what is to be done. If these are vague there will be disputes, and if a contractor who stands to lose should take all possible advantage of this vagueness nobody need be surprised; but when there is no reason to doubt the "true intent and meaning" of the specification, to try to evade it by submitting materials of inferior quality or by omitting things set down to be done, is a proceeding the immorality of which should be better understood. The contract is not to do so much of the work as by sharp inspection the contractor can be made to do, nor to supply materials as near to the quality specified as he is obliged to supply; but, unless the contract is lawfully modified, to do the very thing set down to be done. A stranger may walk into any shop in any civilised country at random, buy goods, and order them to be sent to his hotel, and, except through misunderstanding or accident, the parcel will contain the number or weight or the length and the quality ordered; otherwise it is fraud. No respectable contractor will put his responsibility lower than that. One who is perpetually trying to shirk his responsibilities will be found out and dealt with accordingly.

The settlement of accounts under a contract affords much legitimate opportunity for discussions on details, with reasons offered on behalf of the contractor why extra works should be treated in one way rather than another so as to increase the charge, and arguments as to the proper prices to be allowed for items outside the contract. But these admissions afford no excuse for throwing dust in the eyes of the surveyor, as by representing that things have been done that were not done, or giving false information as to the things done. When such a procedure is mentioned to the contractor it is repudiated, and would not be done under his orders: that it is attempted at all may arise from too great responsibility for the result of a contract being devolved on assistants, who feel that for their own credit they must do all they can to make the job a financial success.

In such a complicated business there is great necessity for the more firm establishment of customs by which the representatives of both parties should be governed. If I ask different surveyors to define "prime cost" I can get different answers. In a matter of daily routine this should not be possible; it makes the amount of the client's cheque depend not on what he gets in return for it, but on the skill or the pertinacity, or the sense of honour, of the parties arguing over the final account.

Extras occasioned by a changeable client who has been well warned, may only be a nuisance to the architect and the measuring surveyor; it is the extra which comes of an ill-considered design or of some sudden inspiration of the architect (apart from the client) that gives real trouble. Double the time spent over the drawings and half the time over the building should annihilate such extras and would be a gain all round. But all changes act unfairly on the client, unless the omissions are watched as narrowly as the extras. With extensive changes, and a quantity surveyor bound, no doubt, to act fairly between two parties, only one of them being before him, a fair settlement is impossible.

I am not sure that, without a special guarantee, the legal responsibility of the quantity surveyor can be put higher than to do his best with reasonable care and skill. He is indispensable to the architect in a hurry, and his wider experience is always helpful. A specification written by him, with all the information before him, will be a clearer and more logical document than the architect would be likely to write, but he should not be entrusted with the responsibility of deciding upon everything that does not make for the beauty of the design. Although there is only one person between him and the client, the chain that connects them is already too long. He cannot know, as the architect ought to know, precisely what is wanted and, in pounds sterling, how much is wanted, but if, besides his ordinary duties in respect of quantities and the settlement of accounts, he will suggest easier or more efficient means of attaining the end which the client has in view, his influence will be salutary.

The general contractor, as we know him, appears to have been evolved in the first quarter of the last century. The Brothers Cubitt are credited with the chief part in this, but, in 1819, St. Pancras Church was undertaken by a general contractor, though there seems to have been much done apart from him. Though the old system of separate contracts worked well enough in small jobs, it was a clear gain to get a large and complicated building undertaken by one builder whose staff was under one control. The occupation of a builder is not so attractive that many men without habits and knowledge gained in the business are tempted to embark in it, but if the general contractor is not a practical craftsman, he may be a good administrator who has learned enough of his business and is able and willing to keep his engagements. I do not care to choose between them. Both may grow together; their race has developed the builder of to-day, and he is developing the builder of to-morrow.

A modern builder on a large scale should have a fancy for machinery and be ever ready to seize on improvements. His steam engine will probably drive the dynamo, but the gas engine will not be despised. Instead of the rattle and friction of heavy chains there is the swift smooth-working wire rope. His stone is sawn, squared, and elaborately moulded or turned while the modern mason looks on. His moderate stock of timber comes in of any scantling he may order, clean and dry, and fit for high-speed machines. The piece that is going into the shops passes straight through the machine, and will come out with its four sides moulded or grooved, or sunk or planed complete. Then, after careful markings, morticing and tenoning are an affair of seconds, and all the parts of the framing come together where the joiner awaits them with his wedges and glue-pot, he being literally and practically a joiner and nothing else, unless he should possess the skill of a fixer as well. His box of tools, once prized, with which he wrought and moulded, is now seasoning at home for a place in some industrial museum. The workshops are warmed and lighted as comfortably as the office, and as building materials in general are amongst the cleanest of things to handle, the workman may, if he likes, keep himself as tidy as the clerk.

So far as is practicable, these improved conditions of labour in the shop are getting applied on the building. I am not sure how far this is due in London to our native smartness, or how far to the example of Scotland and the North or to the pertinacity of American inventors. I have usually seen, either in Scotland or abroad, a new invention for saving labour, years before it gets on our building sites. As I was looking over a large establishment newly fitted with American machinery the inventor called to take home his final cheque. During a polite farewell his customer said, "I suppose we shall see you back some day?" The Yankee replied promptly, "Yes, sir, I shall be here in the spring with my new system of machinery, which is calculated to entirely supersede this of yours."

In discussing the English builder of to-morrow it is impossible to ignore the work of the American builder of to-day, who is a constructional engineer. In the recent Paris Exhibition, models were shown of a tall office building in New York, only one of many now going up in all the larger American cities. The dimensions and records of progress are full of interest. It stands on a corner plot, nearly 100 ft. by 50, and has

18 stories above the street, not more—some have 22. The lowest visible storeys are in handsome granite work, the highest storeys are in elaborate terra-cotta, coloured and enamelled. The builders of it wax enthusiastic as to its artistic character. The time spent in foundations was what they consider rather long, but once above the plinth they made amends. Would it be about fair to say that, with us, a first-class city building might rise at the rate of one storey in three weeks? This New York building shot up through its ordinary and plainest storeys at the rate of one storey in three days, or two storeys per week. In the artistic lower and upper storeys the rate cannot have been much slower than one storey per week; and all this was done in the winter months of November, December, and January. This speed was made possible by their system of skeleton steel construction, filled in and faced with more costly materials. I have details of other tall buildings erected at only twice or three times our pace.

Our Institution has lately provided itself with this handsome building. If our neighbours had no rights of light and air, and we had desired to rehouse the whole of the firms cleared away from this vicinity, as well as ourselves, the American building first mentioned might have been duplicated here. It would have risen from the pavement to its present height in less than a month, and would have gone up square and solid 225 feet—as high as the tall pinnacles of the western towers of Westminster Abbey—in a total period of 15 weeks; and, I suppose, the internal fittings, with the complicated heating and ventilating apparatus, steam engine, electric plant, and express lifts, would have been finished complete in three months more. I am not advocating these methods. The persons who are carrying them out in America are anxious to try them here, so we may wait and judge for ourselves. I mention this and many other things as subjects for forethought, not for prophecy.

If we desire to know whether our present arrangements, by which the architect prepares the drawings and the contractor executes the work, are entirely satisfactory to the client, we have not far to seek. There have always been builders able and ready to advise the client as to the design and to carry out the structure. One of these maintained an office, with a staff of architectural draughtsmen, who were in fact architects. Royal Osborne was one of the products of this organisation, and the practice is not becoming less common. If you go to the estate department of one of the general providers, to inquire about a house, you may learn that they carry out repairs and additions, inspect and renew drainage and build new houses from their own designs, while their staff of assistants may be four times as large as that of average London architects. There is no reason to think that the work is done especially badly, and if the builder or the architect should object to this system they might be asked whether they buy everything at old-fashioned shops or take advantage of the stores. They would find no sympathy outside their own circles, but if they would gain anything out of such a lesson it may show them the good policy of combined efforts to save time and trouble to the client.

We have been considering the details of business under the contract system, but the system of building upon a schedule of prices is adopted on a considerable scale and may be getting more prevalent. One would have thought that in the making of a bargain of that kind, without competitive tenders, the client would be at a disadvantage, but I know of cases in which prices so arranged have been materially lower than any that could be got by open tendering. Two or three years ago, when brickwork was at its highest, it was being done cheerfully on schedules of prices, by more than one firm of good standing, at two or three pounds per rod less than the lowest prices in competitive tenders, and at several pounds per rod less than the price at which a builder of great experience showed me that such work was costing him. I shall try to account for this under another branch of the subject.

One of the useful products of times comparatively modern is rather curiously called the Speculating Builder. We know of speculators in stocks and corn, and have heard of the land speculator. These buy or sell simply with the view of making money by a rise or a fall in a fluctuating market. But this builder, whose object is no doubt similar, proceeds, often with great skill, to acquire land, buy materials, organise labour, and produce a house for the customer whom his sagacity foresees. He is a manufacturer and a merchant. We do not talk of speculating cabinet makers and speculating hatters. He who, with sufficient command of capital, carries on this business honestly is no speculator in the ordinary sense. Nowadays he buys, not a field, but a farm, makes roads, studies the requirements, the tastes, and the means of his customers, and is distinguished for the excellence of his plans. His elevations are up to the latest architectural craze—in fact "Art" elevations. He gives the authorities no trouble, pays rather more than the standard rate of wages, turns out his houses, not in groups, but by long roads at a time, and will let on long or short terms or sell outright. If he injures anybody it is the architect, who, suffering in silence, may be left out of account.

The man who, with nothing to lose, gets hold of sites, is financed, runs up houses that just escape the meshes of the law, mortgages, sells, and is gone, is the Jerry Builder. For him building laws are primarily made and are always too lax. Their greater stringency would be a protection to men against whom they are not required.

I approach the subject of the Building Operative, conscious that it will cover a space, large, but not too large, for him who, alone amongst us all, brings into visible shape the things for which his collaborators are content to design and arrange.

Looking back, as I do, just fifty years, when, in a district charmingly remote, I was entrusted, perhaps prematurely, with the oversight of works, where, without any sort of machinery, every kind of building material had to be raised from the quarry or felled in the wood, and seasoned and converted for use, the boards and quarterings laboriously planed and grooved and moulded and morticed with resounding blows—when during hours of labour that were long and for wages astonishingly low, the masons and joiners turned out their work with a perfection of finish that modern machinery can do no more than imitate, I can realise the contrast between the old style and the new.

I have always been impressed with the skill of these artificers in stone and wood, the truth of their joints, the perfection of their angles, the beauty of their finished surfaces, the rarity of mistakes in their setting out or of material cut to waste. No architectural draughtsman has such a task before him, or need strain after their exceeding accuracy. Accomplishments such as these were the result of long apprenticeship and the constant handling of well-sharpened tools. After many years spent, then and since, in direct communication with men of this class, I am conscious that, however well we and they may understand each other for purposes of business, we become no better qualified to enter into their thoughts and feelings. Between us and them there is built up a barrier stout and high. For some of us it may be getting lower, but there it remains.

I remember, long ago, sitting on the bench encouraging a friendly joiner to develop some grievances that he had hinted against the system of which he was a helpless atom. One of them has always stuck in my memory—his scorn of the employer, a large builder, who had never done a day's work in his whole life, who was always rushing about in his carriage trying to get financed, and who went off with all the profit on the job. It may have been profit or loss, but I knew that the brougham was used also in looking after the materials on which the joiners were exercising their skill, in finding work for them that they could not have found for themselves, and in visits paid to the architect, in order to convince him that these men had done rather more work than appeared by my weekly returns. I asked why do not you and your mates undertake all this work for yourselves and share the profits? I daresay his reply was conclusive from his point of view, but I gathered that, in his view, if everybody had their rights the finished building would belong to them as the makers of it all.

I might have suggested that, much as they were doing to it, they had not quarried the stone, nor felled the timber, nor hauled or stored the materials, nor brought them to the job, nor paid for the ready-made accessories, nor made the design, nor organised the labour, nor found the capital, nor stood the risks of actions or losses. And yet, for fully twelve months before the building could produce to anybody profit or comfort, they had, week by week, been furnished punctually with the means of living, whether other contributors to the result were paid or not. He would probably not have seen the point of this, and in his place I might not have seen it, but it is at least an element worth a moment's thought in the wide subject which we have so little time to discuss.

After all they were really making or manipulating a large proportion of the items and putting them together, skilfully as I have said, and, looking at the lengthened chain of responsibility, passing through so many hands, between the client and themselves, if any of the parties should fail to understand the other, or if the result should not turn out quite so well as had been hoped, the wonder may be that things were no worse. For the barrier that divides them from so many of us is serious. It is not difference of birth, nor of education, nor of social status, nor of dress, nor hours of rising, nor of mere hand labour or rate of pay. It is the practical fixity of their position, without reasonable expectation of betterment while craftsmen, with little hope of getting out of their groove and with no assurance of a comfortable provision against old age.

The whole tribe of clerks or assistants, down to the boy who fetches and carries, is paid by time, at wages often no higher than those of the workman, but from the day they enter their calling they are cheered with prospects of promotion which, though seeming to recede at times, will in the ordinary course of events, with age, industry, experience, and good manners come within reach, and may bring any of them to the highest position in the scale. But if, at the age of manhood, the clerk, or assistant, or office boy should see that he was encompassed by a dead wall over which, in ordinary routine, he could never climb, through which he could never break, no matter how he might grow in age, or strength, or grace, he would look upon his position as that of a serf, and if wise and energetic he would get out of it into the free air, by whatever road. If slow of thought or unlucky, he would sink into the chronic grumbler against fate and circumstances. For the burden of servitude does not gall by its weight and composition so much as by its deadly hopelessness. I have seen such men in such positions, and I know. But if there were to these last just one loophole open in the prospect of better pay is there any reason to doubt that, either alone or in combination, they would use every effort to scheme and contrive, as these workmen do, towards their ideal of life on a higher scale?

The trades union is a natural engine for accomplishing what the isolated craftsman cannot bring about for himself. If it had been instituted in these days, when every section of commercial and professional life, however small, has its society to look after its interests, nobody would have given the matter a thought. If its methods differ from societies of another class it is because the wants of its members are different and must be differently met. From a perusal of the rules, kindly given to me, of some important trade societies, I fail to see anything to which reasonable objection can be taken by an impartial person. Apart from unemployed and sick benefit and the preservation of internal harmony, their object is the protection of the trade rights and the privileges of the members. They go beyond the rules of our professional societies in certain matters, as in the limitation of the age at which a person may enter the trade, but that can only apply to their own members, and if we should think such a policy advisable we could do the like. If they prescribe the lowest rates at which their members may work, so might we. The constitution and proceedings of branch societies are very strictly regulated. It may be that those proceedings are with equal strictness supervised, though I do not see how this is done. But as the union must be, to a large extent, responsible for the conduct of its branches, that is a point of some importance, and I shall have more to say upon it. So far as the union is concerned, we may look upon it as the thinking soul of a body, every particle of which is pledged to respond to the thought.

With the regulation of wages and hours of labour, important as such details may seem, I shall not concern myself. These are regulated, not on any fixed principle, but with reference to time and place and circumstances, and so are many other trade regulations, and though these must not be overlooked, they are dwarfed by comparison with the great principle at the bottom of disputes between capital and labour, which, to put the matter in a nutshell, is the prevention of "sweating" and the improvement of the position of craftsmen as a whole. In this consideration questions between payment by time and payment by results play a leading part. Not that, in the eyes of the workman, there is anything specially sacred in either alternative. There are now far more workmen (trades unionists) paid by the piece than are paid by time, and the principle of payment by the piece is as stubbornly fought for in certain trades as is payment by time in others. The question is by which system the dangerous and abhorent practice of sweating can most effectively be prevented. If a man is working with a machine that can be driven at an increased speed at the will of the employer he can be made to turn out an ever-increasing quantity of work, while his wages may remain the same. That is day work sweating, and, in such a case, it is only through payment by the piece that the machine hand can get a fair return for his increased labour. But if men are working by the piece, at a pace regulated only by their own strength or energy, the man who is the strongest and the quickest will earn the most, and the employers may lower their rate of pay, not only to him but to the workmen all round. This is piecework sweating combined with individual bargaining, and the building industry is one of those in which, from bitter experience, it is resisted with might and main.

I am not quite sure that sweating is inevitable with piecework, but before discussing that matter we will try to see what day work really is,—the fair day's work for which a fair day's wage is the equivalent.

The late Baroness de Bunsen, the daughter of a very capable mother, tells how that mother, when placing some additional household duty upon her, would say, "It is all in your day's work." She adds, "That idea of a *day's work*, as much as one's strength can perform and no more, but not less, and limited to a term, the day, was always fully satisfactory to me, and it is equally satisfactory now." That is the notion of the energetic house-mother who, so long as she is awake, must always be doing something for home and family. It also describes the habit of the energetic man who is working for himself. But if such a task were put on the shoulders of men paid by the day or hour, it would not be borne in a free country.

It would bring us back to the fourteenth century and the struggles of the bondmen, who thereby, and by many a struggle since, have reduced the day's work within bounds more reasonable, if less easily defined. The day's work, even in the eyes of the employer, is not a day of exhaustive toil. Perhaps it may, at the highest, be defined as so much work within fixed hours as can be done by the ordinary workman comfortably—that is without injury to his health and without diminishing his capacity for enjoying the rest of the day as he may think fit. I put it as high as this because the day's work is a valuable commodity which he has to sell, and if he unduly diminishes it he must in the long run be the loser. But, in practice, the day's work will be so much work as the workman and the employer, with this knowledge before them, are fairly contented to give and to accept at the date and under all the circumstances. There must be security against sweating, but if the workman puts in much less than this he runs the risk of outside competition, encourages the employer to look out for cheaper ways of getting the work done, or even diminishes his desire to have it done at all.

I know it has been said that labour is not a commodity in the ordinary sense; but "labour" is often confused with "time," with mischievous results.

Not workmen only, but the rest of us, get into a habit of talking about our "time" as if it were something valuable by which money ought to be made. But mere time is worthless to anyone except the owner, perhaps to him. No employer would think of paying for it. We are confusing the means by which a thing is measured with the thing itself. This notion of payment for time seems to be at the bottom of the aversion which some thinkers on the labour question feel to treating labour as a commodity, to be dealt in by purchase and sale. It would no doubt be a hateful thing to buy and pay for so much of a man as his necessity forced him to sell. What the employer really buys is so much improvement to the material which he puts before the workman as may reasonably be expected to be done in the time by which the payment is calculated. This is simply measurement by the town clock instead of by the five-foot rod, and if a day's work were a fixed quantity the clock would measure it as accurately and much more conveniently than any scale of feet and inches. So long as clock measurement is fairly used by both parties, without hurrying or chasing on the one hand and without loitering on the other, its record should be fairly satisfactory. But whether we look at the matter honestly or guilefully it is impossible to get out of the fact that directly you interfere with the rate of work, payment by time becomes piecework under another name. This is evident, not only from what I have said, but from a study of the disputes which often arise over the day's work. When we come to the question of loitering I will give two or three illustrations of this.

The desire to have an easy life is common among time-workers of every class. A great modern novelist found subjects for his satire among gentlemen engaged in the public service, and one has heard of conspicuous instances in real life. In fact, short hours and light work seem to have been traditional in certain offices in times past. A few weeks ago there died a very aged gentleman who could recall the time when his office hours were from eleven to two, while the holidays were just as exemplary. If a workman is merely idle he is only like many more of us who prefer an easy time. An employer must recognise this, and take his chance of being recouped by extra energy in some other quarter. But when men are working together so that all must go at the same pace, the pace will be that of the weakest, the least energetic, and the slowest. In such a case, health and strength and briskness go for nothing, and to the employer it may be just the same as if his whole staff on that particular work had been recruited from the class to which the feeblest among them belongs. A judicious employer will therefore select his slowest hand with some care.

There is, however, a far more serious matter than mere idleness. It is the deliberate loitering of which employers have long complained, the effect of which is to prolong a job so as to delay the day when the men will have to be paid off, or so as to keep work longer in hand for the benefit of workmen in general. I am disposed to put down the few bad cases that came under my own notice to natural idleness, with lax supervision; but this is not the view taken by such employers as have dealt with the subject.

The reading of a paper by Mr. Brassey, now Lord Brassey, at the Royal Institute of British Architects in 1878 brought out much evidence on this subject. Messrs. Lucas had found that labour on brickwork, which had been estimated on previous experience to cost £2 17s. 0d. or £3 3s. 0d. per rod, actually cost £5. They found that although they had provided machinery which should have made up for the recent rise in wages, the cost of building had actually increased by 20 to 30 per cent., the cost of materials remaining practically unaltered. This, they said, was entirely due to the small amount of work done by the men. They found, in fact, that men did little more than half the work for ninepence per hour that they formerly did for sixpence. Mr. Lucas said that the unions forbid piecework, with the object of obtaining "the largest amount of pay for the smallest "amount of work in the least number of working "hours," so that "the public are hit all round."

One or two architects were shocked because this statement as to work and pay and hours was defended by a trades union speaker, though I think he had only meant to embody the desire that most of us have, to sell our services at a higher rate. But the professional man, whether he may be paid by time or by the piece, manages the matter by raising his charges if he can, while he either goes on giving the same service, or even making it more or better. Wages, like fees, may rise or may fall, but I think we shall be of opinion that the service, if it is not excessive, should remain at least the same. We will make a note of what was said about "the public," to whom I have not yet alluded.

The view of contractors in general on this point may be gathered from a list of lowest tenders extending from 1889 to 1898, in which stock brickwork rose from £11 per rod to £20 and even to £22; a rise of 100 per cent. But no item in the cost of brickwork had risen very seriously except bricks, which had gone up 30 per cent. Bricklayers' wages had risen only 10 per cent., and the explanation given by contractors was that the men did less work. Contractors have been saying recently what was said twenty-three years ago, "It is impossible to calculate beforehand the cost of labour." Contrast this with the labour on the rapid construction of America, where, as the *Times* correspondent says, the engineer watches his machine even during his meals, and where an English traveller has recently reported that every one saves time and does his best for his employer. For all this there must be a reason.

I have quoted enough to show what employers have publicly stated as to loitering and what their tenders prove. One instance was given to show that it was systematic. Some Gothic capitals for which £5 each had been provided were given to the men, and the first one cost that sum or less, but the others cost £8 each. It was explained that the shop steward had said that they were worth this sum, and they must be made to come to it. Many similar cases have come to me at first hand. A foreman set a new hand to do some piece of joinery which he considered would be finished well within the day. After an hour or two he noticed that there was practically no progress, and, on remonstrating, the man replied, "This job is a day and a half;" so they parted, and it was done in half a day. This is fixing the quantity of work to be done for a day's pay, and is really piecework disguised as daywork, and it points to a system well enough understood to be acted on by the individual workman without the help of a shop steward.

Another instance carries the matter much further. A foreman, on seriously discussing with the leading hand, or perhaps the shop steward, on a job, the delay plainly evident, was told that the amount of the contract for the particular work was so much, there had been three-fourths done, and the cost had only been so much; there was therefore no occasion to complain as yet. Upon that view this was not merely piecework, it was partnership—a limited firm in which one partner took so much as he considered to be reasonable, leaving the other, who had no voice, just so much as ought to be left for him. The mischief of this reaches further. If this division of the profits were frankly understood the men might finish off the work at their own pace and take their share But being on daywork they can only take it out in hours, and however the employer or the public may suffer by the delay, delay there must be. The sagacity of the plumbers of Chicago has shown them a more excellent way. They fix what they consider their day's work of seven hours, do it in five or six hours, and take their full day's pay. Surely this is piecework pure and simple!

In the discussion of 1878 a labour leader met all statements as to loitering by laying the blame on incompetent foremen. He said a foreman should know how much work a man ought to do. So he should, no doubt, but the foreman's story is that it is useless to attempt to get more work, even by turning off men, when the new hands do only the same as the old. My own impression is that this is scarcely true. A foreman is of real use when he is good-natured and firm and has at his back an employer of good position, but who may be depended on to shut up the work when he feels he is being badly used. I think this is the reason why certain employers of high standing can get work done cheaper than some others.

There are many things charged against workmen besides loitering. Some of them, though very troublesome to the employer, have grown out of a reasonable anxiety to prevent disputes among their fellows in other trades; others appear to be the fag-ends of old trade customs; others arise out of the splitting up of a trade into branches, which, under certain circumstances, has its convenience, but they may be mere substitutes for loitering. There are also impediments to progress in work caused by a genuine anxiety to keep their trade free from intruders—at the expense of the employer. And in certain trades there is grave obstruction caused by a bigoted adherence to a rule against overtime, even when an emergency occurs that demands some trivial relaxation

The demand for skill of various kinds, the diversity of materials and the necessity for different tools, must naturally have suggested the division of the building industry into separate crafts. The principle is good if not carried too far. Work in stone differs radically from work in wood. Carpenters differ just enough from joiners to justify division so long as convenient. "Three-branch" hands may flourish where work is scarce and lies wide, but they become one-branch in busy towns. Workers in brass and zinc and tin and iron may be divided so rigorously that an article passes through half a dozen hands when it might be finished by one or two. When it took ten men to make a pin, I suspect that about five of them were practically lookers on, till the machine produced a revolution that swallowed up not the five only but the ten. That is a melancholy but common story.

What is convenient when you are manufacturing by the gross may be folly when a single article is in question, or in case of an emergency. If there is to be no elasticity, a bricklayer, however handy he may be with his trowel, could not stop a rat-hole in a plastered wall. The frequent disputes amongst bricklayers and plasterers and tilers that engage the attention of unions, arbitrators, and the Labour Department of the Board of Trade, may lend interest to life, but these battles should not be fought at the expense of the employer or ultimately of the client.

By all accounts the plasterer gives more trouble by his trade regulations than any other craftsman. He claims work that other workmen think to be theirs, and he insists on doing his own work in an expensive way. In an important provincial town, after a strike over the allotment of some work to floors between plasterers and bricklayers, an agreement was come to, and after further delay, through disorganisation, the work recommenced. Then, the plasterers objected because the labourers wheeled the plaster or mortar in on a barrow instead of carrying it on a head-board; they objected again because the labourers mixed plaster for cornices on a board with a trowel, and so it had to be mixed in a bucket and stirred with a stick. In a building, some little cement work had failed to be done on a Saturday so as to be hard and ready for other trades to follow on next week. The foreman plasterer, to avoid delay, remained behind for ten minutes and did it himself. This was seen and reported to the local lodge, which fined him a pound for working overtime, that being strictly forbidden. The rules, in fact, seem to have been so strict as to forbid a concession to the convenience of the employer not much more onerous than any workman might, out of mere politeness, make to a stranger in the street.

I need only refer to such matters as limiting the things that may be done by labourers, and the loads that may be carried, and the tools that may be used by workmen, with the object of delaying the work or getting out of it as much money as it may be supposed to owe to the workman. When in early youth I saw on the continent certain tools that did their work quickly, I was told by an old workman that they were well enough known here, but were "unfair" tools, because they got through work too fast. I should like to show him now a machine that does the work twenty times as fast.

And, to mention another subject akin to this, the dependence of a grown man on work that in most other countries would be done by boys or women, in the expectation that a "living wage," enough for himself with his household, can be made out of it, is risky to say the least.

Besides the effect of machinery, of articles ready made and of imported goods and outside labour: besides, even the great questions of work lost and building projects abandoned, there is the exceedingly important question of work lost to trades by changes in modes of construction, apart from the policy of employers or employed.

The demand for fire-resisting construction has already affected very seriously the trade of the carpenter. In London and other places, public buildings and many others must, by law, be constructed very largely in fire-resisting materials. Fire-resisting floors are necessary over certain shops, and will probably be demanded over all. I have found floors of steel and concrete cheaper than good floors of wood. As an examiner in building construction, protests reached me against questions on the framing of floors, because that subject was all out of date! Timber partitions are out of date, and for a large class of buildings wooden roofs will follow suit. In rebuilding the Cripplegate area after the great fire, hardly a roof has failed to be voluntarily made fire-resisting. If the rise in the price of timber is maintained, the use of substitutes for carpentry and joinery will be automatically increased. Asbestos, which can be fixed dry, is dangerous to the joiner as well as to the plasterer: whatever work steel and concrete cannot do, it will do. The wooden staircase, with scientific handrailing, is gone from important buildings, and wooden lining to the walls and ceilings is gone; all with enthusiastic final farewells! Such losses are beyond prevention, but there are others which might be temporarily staved off.

Masons' work, which for a time recovered its place after its long struggle with imitative cement, has now to compete with cut brickwork and the more threatening terra-cotta (the work of the potter) in most of our finest buildings. It is said that this change was brought about by a masons' strike, but, as a fire-resisting material inside or outside a building, stone, as hitherto used in the City of London, is discredited finally.

In the case of the plasterer, trade disputes are dangerously interesting. From the nature of his work he is the most unpopular artificer to have about a house. In a new building, just as the walls are getting dry he comes in and makes everything in a mess for two months or three. Then they have to be dried again. Every effort is being made to dispense with him. Lath and plaster work is forbidden in fire-resisting constructions. There are a dozen substitutes for plaster—none, perhaps, quite satisfactory. A single architect is now using one of these by the acre. Brickwork is being left bare or painted or whitewashed or "dinged," or covered with prepared papers or lincrusta or compo-board or incombustible panelling. Walls that fifty years ago would have been covered with plaster are now finished with glazed brick, or even terra-cotta.

But the plasterer seems to have let slip the artistic and interesting branch of his work. Old ceilings that in this country used to be covered with ornaments, cast or worked in *situ*; ceilings that all over the continent are now elaborately ornamented, are being done in imitative materials. The richest panelled ceilings are put up in stamped steel. All this while the County Council is giving fabulous thousands to preserve a house in Fleet Street rather than ruin by removal its ceiling, which is a relic of a decaying art.

May we not detect a process something like this in rapid development? All work that requires special skill is getting done by men or by processes outside the regular trade. Work of the simplest kind is being taken up by machinery; and machinery is rapidly encroaching on that which is left between these two, I find in the church records of a small provincial town that, four hundred years ago, when they required a new image of the highest object of their reverence, they employed the very man who hung a gate, mended the bell frame, or set up a pew. When, in early days, I drew and modelled a coat of arms badly, the village mason saw the point and carved it well. His predecessors had furnished the churchyard with tombstones that art enthusiasts now sketch and publish. When I asked one who undertakes stone-carving in a large way whether his men were made out of the better sort of masons, I found that this was not so. The fact that a stone-carver holds his chisel just a shade differently from a stonemason does not seem an insuperable obstacle.

I will only say of brickwork, which seems the least liable to be supplanted, that concrete is encroaching upon it fast—concrete that just failed to become a dangerous substitute twenty years ago, when brickwork was hardly more than half its recent price—concrete that is unskilled labour, that makes such admirable partitions and such reliable retaining walls.

Not merely from curiosity I said to a very enlightened man who is turning out woodwork made with the newest machinery, "I suppose you catch intelligent joiners for this." He said "No, I begin with the raw material, find a man with a turn for machinery, and we teach him the little joinery he need know." Still, joiners are largely employed in this way, but they are employed in doing the work that it would take many joiners to do by hand, or in fitting together and fixing work from the machine. Not only in the joinery trade, but in others, the enormous quantity of work that is bought by the builder ready made, or is imported, is competing with the contractor's workshop and developing a class of men who are fitters and fixers rather than all-round craftsmen.

At this point it will be convenient to look a little more closely at that which is the real basis of discussion on labour and wages, of negotiation, disputation, and it may be, of quarrel—the work that for whatever reason has to be done. I notice in a certain class of literature a tendency to look upon the work that is going on at any particular time as something that can be and ought to be shared out fairly between the whole body of workmen, or, to take a narrower view, among those of them who belong to a particular organisation. It would be highly convenient if by some means we could so arrange that at all times the number of workers and the amount of work might be made to fit. In default of this, we have to handle with our own clumsy and unaccustomed fingers a mechanism of infinite delicacy, easily put out of gear. In dull days of depression, before the faintest whisper of improving business has been heard; long before the client has dropped the first hint to the architect; even before he has felt the impulse within himself, there has sprung up, through influences quite unforeseen, the genial breath that in due time refreshes and revives. Foreknowledge of this would be priceless; the after-knowledge may be read in any paper, and is dear at a penny. Meanwhile let us do as little mischief as we can.

We have to understand and practically apply the truth that every rise in materials, from whatever cause; every increase in wages, however well-intentioned;

every check placed on the turn-out of work, acts with unfailing certainty upon the mechanism I have named, with an effect in proportion to the cause.

When the cost of building rises, designs already prepared are "hung up," dimensions and qualities are cut down, buildings are abandoned, the desire to build declines. The builder looks out for cheaper methods of construction and quick working machinery; hand labour is dispensed with; foreign manufactured stuff is imported, and in all ways work is lost to the English workman.

All this is consistent with the appearance of prosperity in trade. The Board of Trade returns show an extremely low percentage of unemployed in the building trades. They do not show the amount of work that is leaving those trades, that is even leaving the country through rises in prices and from other causes which are no less important: and though it is no special business of ours just now, briskness of trade in reference only to the number of workers engaged proves nothing as to the general prosperity of the working class, for if there are numbers kept out of a trade, who in the natural course of things would be in it, they have to make a living in some other way, and probably overcrowd other trades.

But the whole question seems to deserve careful investigation by some impartial authority. There can be no difficulty in ascertaining, from documents, the real relation between wages paid and work done, and there can be no insuperable difficulty in estimating the amount which might reasonably have been done.

Practical Englishmen as we are, our mode of dealing with the three chief elements of the labour question, time and pay and work, would excite the emotions of a philosopher of either school—the grave or the gay.

We measure the working hours by the nicest instruments that science can produce, the sun's inconsistencies being detected and exposed. Hence comes the signal which calls the workman to his labour, and that which, at the appointed instant, arrests his impending stroke. The coin that rewards his day's work is weighed to the estimation of a hair, and warranted with all the pomp and ceremony of Goldsmiths' Hall. And yet, on this side the Atlantic, no workman, no employer, no public authority with its standards, seriously attempts to apply in our own industry any measurement to the "day's work" itself.

After all our talk it was left for the genius of the Chicago plumber to solve the problem. And surely his method of declaring how much should be done in the seven hours' day, and then claiming the right to do it in five hours for seven hours' pay, is, in principle, transparently honest and conspicuously fair. For our own credit's sake I am happy to refer to a home-made scheme on similar principles that seems to be acting fairly well in other important industries.

In the tailoring trade, among others, there is a contrivance mysteriously called a "Log." The tailor works either on daywork or on piecework, but his piecework is done under the disguise of daywork, at so much per hour. Every part of a garment has been valued and estimated in time and is paid for by the artificial hour. If he finishes a "day's work" in advance of the clock he can leave with his day's pay. If he is behind the clock he must put in more time. But, as I understand, he cannot be sweated in a fair shop that adopts the log. There is no individual bargaining. In arranging for daywork the wage varies according to individual aptitude, both parties having in their mind some reference to the cost of work by the log.

I see no insuperable difficulty in devising, for any branch of the building industry, a log that may act as a standard day, leaving the wage for the artificial hour to correspond with the wage paid at the time for the actual hour to men on daywork, thus enabling the quick and skilful workman to reap the advantage of his speed and skill, and the less enterprising workman to go on as now at so much a day.

I have formed this opinion with some deliberation, because in the discussion on Mr. Brassey's Paper, in which payment by results was very strongly advocated, a prominent labour leader said it was almost impossible to apply piecework throughout a building. But I have before me, and every surveyor has always under his hand, a document called a bill of quantities, in which every item about a building is set down in minute detail. I see a lengthening row of annual price books in which labours are separated from materials and put down in decimal constants. The builder, as contractor, must make up his tender from such separable details; the architect acts upon them, the surveyor digs among them for his daily bread. And yet when the builder, as employer, demands a similar arrangement, he is met with a suggestion of impossibility. That measurement by the five-foot rod would cause a hundred times more trouble than measurement by the clock is very probable, and as it is only suggested as a remedy against loitering, this may be used as an argument why the loiterer should save trouble by mending his pace.

My reference to strikes and locks-out must be brief. However trivial a dispute may be, the occasion may get magnified to an important question of principle, and, for want of a peacemaker at the early stage, war may be declared and carried on with a ruthlessness that, in the view of the looker-on, may be out of all proportion to the point at issue. Whatever may be the occasion, the stoppage of the works of an employer, not only on the job where the dispute arose but on all his contracts and at his yard, while clients and architects are pressing, while his expenses are going on and his financial engagements have to be met, is a measure that one feels ought by all fair means to be prevented. The general lock-out follows, and, after months of loss and suffering to many, an arbitrator is called in, who, if appointed at the outset, might have stopped the disaster. It is a very important gain to all concerned that a department of the Board of Trade now invites the submission of disputes to arbitration. The *Labour Gazette* shows, month by month, what these disputes have been and how they stand or how they have been arranged. More good than appears in print must arise through the establishment of precedents about which the parties will cease to dispute.

The habit of employing a builder to do for you what you cannot conveniently do for yourself has thrown into the background the ancient practice of direct employment, but modern ideas have long been tending that way. It is the distinct and considered policy of certain labour leaders to encourage working without the intervention of a contractor, especially as regards public work. The idea of saving the contractor's profit is tempting to public bodies and to private persons, and the facilities for carrying out the system have been growing very fast. If a client has a fancy to try the experiment, his architect will prepare drawings, and, if he is wise, a surveyor will take out quantities in sufficient detail. He or his trusted agent may proceed to engage a good foreman and workmen, insure against everything, and contract for carting away, buying his raw materials and such scaffolding and tools as he wants for the job. His iron will be ordered long before, and delivered when wanted; his joinery will be imported or got from a manufactory; everything else about a house can be bought from the pattern-books just as easily as it is now selected by the architect. The terms being cash, the lowest quotations may be got; that is proved by experience. The workmen will fix and fit. As they manufacture nothing, no workshops will be required.

At the end of the job, plant and surplus stuff will be sold, as a railway contractor would do on completion of his contract. The elements of saving are many. Months may be gained out of the time occupied in completing drawings for a contract. Whether all the contractor's profit is saved may be doubted, but savings in interest on capital, in the prices of materials and fittings, and in salary of a clerk of works should amount to a very considerable sum. Then we are very distinctly promised that the workman will go on faster on direct employment than when working for a contractor, but that would have to be proved. Against these savings must be set some extra charges for management, but on paper such a plan seems feasible enough. It has actually succeeded in practice, when nothing of importance went wrong.

As to systematic loitering or other flagrant misconduct, it is certain that a man spending his own money direct would not tolerate it. Not being bound by any contract —that anvil upon which the builder, as employer, can be so effectually hammered—and not being burdened with workshops and expensive machinery, or interest on capital, nor with other undertakings of the same kind open to attack, he could generally afford to wait until men would come forward and carry out his work in a more reasonable way.

It is difficult and disheartening to discard the idea that a company of workmen undertaking contracts might be successful and improve their own position, but after much enquiry I find very little to encourage such a system. Small companies seem to succeed for a time, and then decay through want of business management, or through dissensions among themselves. The best combination I remember, in which a contractor's general foreman and a contractor's book-keeper took the lead, was as short lived as any other. It may be that in this intricate business there is no prospect open to the workman through the road of co-operation, or it may be that some modification of the system, such as has been tried in France and also in this country, may have better success.

All along, as must have been noticed, I have been harping on that entity outside our con-fraternity, whom I have called the Client. My final word about him, like my first, must be to suggest that he is worth more of our consideration than he commonly receives. But I avow that throughout I have been thinking, not so much of the immediate client who comes to us in purple and fine linen, well able to take care of himself, but of that host marching behind him, of which, though indirectly, we are the servants, and, in a sense, the pioneers. After we have all had our say, the business of the country must be carried on, and will be carried on; for the public is an imperious master that will not wait indefinitely while its servants squabble over the work.

I have been thinking, among other grave and weighty matters, of that which is called the great question of the day, which is pressing upon and puzzling every urban authority in the land; the housing of that class who, through one client or another, must in some way be housed. It is the duty of all of us at this juncture, and not of one section of us more or less than another, to take up our fair share of this burden, and bear it as handsomely as we know how.

Partly through the scarcity of vacant land, but also very largely through the increased cost of building, nearly all the societies that have been building for this class have had to suspend their work, and it appears to me that, unless the cost of building can be materially reduced, for which purpose a reduction of wages is not necessary, rents will very materially rise, not only for such buildings, but for all buildings in every growing town. Whether the effect of good wages will be to attract any considerable number of the working class who are now deserting the country for the town, time must show.

Apprenticeship of the old pattern, in which the youth was bound for seven years, during two or three of which he learnt very little and was of very little practical use, is vanishing with other mediæval customs. That the journeymen in a trade should have consented so long to assist in the training of youths who were so soon to be their rivals may be due in part to the obstinate persistency of habit, and in part to the establishment of a kind of understanding that apprentices should be limited to so few that no practical danger need be apprehended from them. But the workmen have deemed it necessary for their own protection to limit much more strictly than formerly the admission of apprentices into their trades. So stringent have the rules now become that in some trades it is practically impossible to get a boy apprenticed, unless he is the son of a man in that trade. Cases have been mentioned to me in which a master tradesman was not allowed to bring up his own son to his trade.

This may be necessary as a measure of self-defence, and, so long as there are enough men in the trade to do the work, nobody outside need trouble. But if all the architects and all the surveyors were to combine for the strict limitation of new pupils in offices or new members in their professions it cannot be supposed that positions so lucrative, with prospects so splendid, would not draw in talent quite irrespective of our own interests or our regulations. No doubt the work would at the outset be execrably done, but it would improve day by day, and meanwhile, in whatever fashion, it would unquestionably be done.

Every halfpenny added to the wage per hour, every limitation of the hours of labour, every reduction of the output of work, every addition to the comfort of the workman on the job, every precaution taken and every provision made to protect and insure life and limb, is a full-page advertisement for such as are worse paid, harder worked, and for whom fewer comforts are provided.

The position of the building operative among his fellow-men has been improving. There is no reason why he should not, like the poorly-paid French artisan, or the doubly-paid American, leave his work at night in a condition as to dress and general appearance good enough for any company into which he may care to go. This cannot fail to appeal to a wider class.

I should like to show you one or two of the board schools in which education is not now directed solely to the production of clerks and university graduates. The children are taught the names and the uses of tools, and, to a certain extent. how to handle them. You might see three or four hundred boys, with no exception made, taking their turn at drawing, modelling, and rudimentary carpentry or immature engineering. Most of them will go into offices, but not all.

We are yet only at an early stage in the technical instruction of young men. There are institutions in which every kind of help is given them, either for small fees or none, to learn any trade they may wish to take up. At present it is necessary to see that public money is spent only on such as have actually entered their trade, but that is not a rule without exceptions, and the knowledge of tools and processes must very soon become as common as the knowledge of arithmetic.

But I am disposed to think that any increased and more pressing demand for building operatives will be met, as in former times such demands have been met, by an influx from the remoter parts of the country where work is slack and the surplus population must go out into the world to gain their bread. And whether as apprentices or as improvers, those of the rising generation whom we are doing so much to train, are not likely to ask anybody for leave to earn a living in whatever way they may prefer.

If in my opening sentences on the unity of the Building Industry I carried my audience with me, I may hope that we shall finish in the like accord. There are thinkers, many architects being of the number, who go so far as to advocate the placing of design and workmanship in the self-same hands. Some say that the designer by profession should, so far as possible, carry his design into execution; others think that none but the trained artisan ought to be entrusted with the design. The millennium may comprehend both or neither. My own suggestion on that particular head shall take the form of a question.

As artists, as men of business, as craftsmen, we are all in the same boat. This is one industry; there is only one craft of masonry and one of carpentry and one of any other trade. Why should we not all learn them in the same school and at the same bench, at least so far as we have to travel together? The workmen would leave comparatively early in the journey and the rest of us at stages which preference or necessity might dictate. But so far as we might journey together we should be learning the very same things. We should understand each other for the rest of our lives. And if one who might have started with lower ambitions should find his way into the higher grades of the industry, it is not the class to which I belong that would begrudge him the success which he had earned.

With these suggestions, and those on other points which I have felt able to make, I commit this Paper to your candid criticism.

Mr. Howard Chatfeild Clarke (Fellow) said he felt it an honour to be allowed to propose a hearty vote of thanks to Mr Blashill for his most interesting Paper. As far as his memory took him, he could not recall a more able and more generally valuable contribution to the *Transactions* during many years past, and he thought the Members were specially indebted to Mr. Blashill, a Member of the Council, for having embodied his wide experience and deep knowledge of the subject in so lucid and closely argued a Paper.

He could not but think that if every new Member of the Council were to contribute a "diploma" Paper, following the example of the Royal Academy, there would be contributed to the *Transactions* a number of valuable additions of which Mr. Blashill's would always be a brilliant example. The Paper was a long one, although written in so breezy and pleasant a manner that it seemed short in the reading, and it dealt with so many of the deep and grave aspects of one of the greatest problems (as he ventured to think) of the coming century, viz. the labour problem, that it would be impossible to fully discuss it without a careful perusal of its many details, and he would therefore confine himself on that occasion to proposing a vote of thanks to the author.

Mr. Daniel Watney (Past-President) said he had great pleasure in seconding the vote of thanks to Mr. Blashill. He quite agreed that it would be impossible to discuss that evening a Paper dealing with so many aspects of so wide a question. A great deal of careful thought and attentive perusal would be necessary before he, for one, would feel at all competent to offer any criticisms upon it.

The Chairman said he fully endorsed the remarks that had been made by Mr. Chatfeild Clarke as to the great value of the Paper, and he was sure they would all look forward with pleasure to the discussion.

The vote of thanks having been put and carried unaminously, the discussion was then, on the motion of Mr. Howard Chatfeild Clarke, adjourned to the next Meeting.

AT

THE ORDINARY GENERAL MEETING,

Held on Monday, 11th March, 1901.

JOHN SHAW (President) in the Chair.

A Discussion took place on the Paper read at the last Meeting by Mr. Thomas Blashill, F.R.I.B.A. (Fellow), entitled, "The Present Condition of the Building Industry."

Mr. HOWARD CHATFEILD CLARKE (Fellow) said it was a great pleasure to him to speak in cordial appreciation of the value of Mr. Blashill's Paper, embodying, as it did, a large and varied experience of some fifty years. He thought Mr. Blashill showed his wisdom in that he dealt not so much with the past, but looked fairly at present conditions and from them onward to the future.

With regard to that useful personage, the employer, of whom many architects and surveyors saw only too little, one point, he thought, might be impressed upon him, namely, that he should give his architect his whole confidence, as he would his own solicitor. He had found, as many others had, that the employer told only one-half his mind to his architect. He thought this hardly a fair position to place any architect or surveyor in, and that the employer should give his full confidence to his architect, who would respect that confidence, just in the same way as the solicitor would. He, speaking as a young man, considered that when the drawings and specifications on the employer's instructions were completed and the contract signed, they should never be departed from. He thought, in practice, architects and surveyors would agree that it was a golden rule, after they had thought out the drawings and specifications, to adhere to them through thick and thin, although the builder and clerk of the works, and others on the building, pulling against the architect, desired to vary them in one way or another. Personally, he strongly advised that, having once completed the design, the drawings and specifications should be rigidly adhered to. Even if something were a little wrong the accounts would come out better if the building were finished, even though in a few cases it might be necessary to slightly alter it afterwards. The author referred seriously, but not too seriously, to the position of an architect and his duty to act judicially between the employer and the contractor. Many employers seemed to think that they might grind down a contractor as they would never think of doing in the case of other tradesmen. The architect had to hold the balance, and he thought Mr. Blashill's words were very wise in that respect.

The next point he would refer to was the question of the selection of the builders, on which very largely depended the whole success of the work. The architect must be responsible for the builders he selected, and when clients put in their own builders they should always be warned that, unless they were known to the architect as competent men, the client must take the risk, for it was totally impossible for an architect, even if he had the time or the inclination, or even perhaps the ability to teach a builder his business. He had always held that the architect was not paid 5 per cent. for becoming a detective, but was entitled to have a builder employed whom he could trust.

Then Mr. Blashill had suggested that it was well from the start to prepare full-sized details for the building all the way up. That was a rather Utopian idea, and, even though it might sound attractive, he feared was not very generally carried out. He thought that if an architect supplied to the quantity surveyor one-eighth scale drawings with half-inch details, he did all that was necessary to enable him to work out the quantities properly. There must be some power of varying details as the work proceeded, and as appeared necessary in execution. It was most important not to hinder the builder in any way, but he thought it was quite impracticable to give him complete full-sized details before the job was started.

The difficulty with regard to speed in the job, of which the author spoke several times, was no doubt largely increased by using certain materials, and one of the worst troubles connected with the use of that very beautiful material, terra cotta, was the delay which constantly arose in obtaining it. It was hardly fair, either to the employer or the builder, to use such materials, because the delay was often most serious.

With regard to the quantity surveyor, who was very often recommended by the employer, it had become very usual in any works of considerable size for the builder also to select a quantity surveyor, and for those two gentlemen to take the quantities jointly. He thought this was to be encouraged as a very fair and proper system.

The old question of making the quantities part of the contract had been often before discussed in that room. Personally, he regretted to have to disagree with the author on that point. He saw no object in making the quantities part of the contract. They were only a means of obtaining and fixing the prices, and were not part and parcel of the drawings and specification from which the job should be carried out. Although he thought it wise to deposit them as priced bills for any variations, he saw no object in making them part and parcel of the contract.

The question of sub-letting was a very important one. There again he thought the architect must retain the power of selecting certain materials, and even, in the case of ironwork, of selecting certain firms to tender, putting the amount of the lowest tender into the builder's contract. If the builder was fairly told to add a profit, and carriage and fixing, he did not himself see how he was damnified in having it put into his quantities. He always advised a builder to bind a sub-contractor down to the same terms as he was himself bound down to.

It would be found that when the sub-contractor was not bound to a time, the builder would turn round to the architect and say, "You put this man in, I have "nothing to do with him except to pay him." As a matter of fact he had everything to do with him. The architect ought, in fairness, to be allowed the selection of certain materials, although he should not put in more provisional amounts than were absolutely necessary.

He had recently to do with a contractor who especially wished to vary a certain material, for no other reason than because he hoped to get a larger discount than was allowed on the material specified. He, as architect, did not consider that to be the intention of the contract, and had stuck to the material originally specified. For this reason he did not quite agree with Mr. Blashill that the builder should be allowed to get his ironwork where he chose. In his only experience where steel was thus provided, he had found, on testing it, that the article supplied was not steel at all. That sort of thing led to a great deal of unpleasantness.

He quite agreed with the author that most of the troubles in building works were to be avoided by providing correct drawings and specifications before the work was commenced, and nearly all the disputed accounts that had come before him, and many of the disputes he had seen reported, had arisen from imperfect drawings or incomplete specifications. He thought it most important to impress upon all young men in the profession that the drawings should be absolutely clear, and the specification complete.

He was sorry he could not quite agree with Mr. Blashill about the quantity surveyor writing the specification. He thought it was the architect's business. The quantity surveyor, having taken the quantities from the specification, could correct and amplify the specification, but he did not think it was his business to prepare the document.

With regard to the author's remarks upon the lofty American buildings, and the promptitude with which they were erected, he regretted he had never been to the United States, but he would like to know, and he had never yet been told, what was the width of the streets where such monstrosities were erected. He had seen a picture of one showing 28 storeys. Putting these even at 10 feet each, the building must rise to between 200 feet and 300 feet. Was that a wise thing for any town to have, unless the street was of some abnormal width?

It seemed to him that it would be necessary to lay out a new town to justify the erection of these huge piles.

The question of architect's offices in a builder's firm was rather a sore point for an architect to touch upon, and although Osborne and many fine houses in Park Lane and elsewhere had been built in that way and were very good architecturally, and although there might be as competent architects in the builders' firms as out of them, he thought that such a system, if generally pursued, would abolish the very necessary check on prices, materials, and on the non-waste of materials, and points of that description, and that consequently the practice ought to be discouraged in every way.

No doubt, as Mr. Blashill had said, the most satisfactory way was to make a schedule of prices, and he thought everyone present would agree with him in desiring to carry out jobs in that way. He thought it was the fairest and most satisfactory way, and he was sure gave the client the best value for his money. Of the speculative builder he had not had very much experience, but a class of speculative gentlemen, whom he might call financing architects, were very much in evidence in London at the present moment. Much harm as the speculative builder had done, he felt sure that this class of men did even more. They came to the City, the West End, and the West Central Districts, and took land at quite ridiculous ground rents, out of which no man could live, and as the result of a financial operation they erected certain structures upon that land. The system led to many evils; it really stopped legitimate building, and many a man who would have speculated legitimately was deterred from doing so. There were many cases (he knew one within a mile of that room) where buildings had actually been handed back to the original ground owners, because an improper ground rent had been paid upon the land. Such rents were not ground rents at all but really half rents. The practices of such financing and advertising persons were very much to be deprecated. Their names were generally placarded all over the hoardings, but the buildings, as buildings, did not advertise them afterwards.

On the labour question, which was perhaps the most important matter dealt with by Mr. Blashill, he had very great diffidence in speaking, for he could not pretend to have thoroughly thought out the subject, but he held that it must be looked at quite apart from its political aspect. It ought not to be a Labour, or Progressive, or Moderate, or other party question—it was much too important a matter, for behind it lay the question of the prosperity of the country and of the community at large. The difficulty he had always felt, and which he thought was being especially felt now, was that the question was regarded from such different views, and instead of being considered for the good of the many, it was approached with a view to the good of the few. Since 1870—for a whole generation now—the people had been given such an education as in the old time had never been dreamed of, and it was advisable for every man to ask seriously if he wanted to look the future fairly in the face, whether that had resulted in improvement in the workmen. Thirty years' experience had left no doubt that it had been of immense benefit to the country, and now was the time, as Mr. Blashill had said, to deal candidly with the matter, and also with the much bigger question, which was now being raised, of technical education.

He had not a word to say against technical education. He knew the good work that had been done by many of the great City Companies—the Carpenters, the Plumbers, the Drapers, the Fishmongers, and others. But what was the substantial gain? What had the technical schools done towards fitting the artisan to fairly earn his living? After all, that was the practical point. Hundreds of men attended classes during the winter. What proportion of these turned out good craftsmen?

He had lately gone to a large manufactory to inspect some models, and he had asked the head man what number of men coming up from these technical schools were any good, and he was told very few indeed, or practically none. He might say it was a kind of factory where good craftsmen and really useful men were wanted. That was not encouraging, when one considered the thousands of pounds spent every year on technical education. No doubt a great deal of good work was being done, but was it practical work, leading to a practical result? Every architect had, for instance, to have houses painted, but what painter could be trusted to put two colours in contrast on a door? If he told a man to put two simple brown colours on a door, one on the panel and one on the stile, and make a contrast, and left him to do it, the chances were the whole thing would have to be done again, and he must practically mix the colour himself, and stand over him while he used it. He believed that there was a splendid opening for any man, or combination of men, who could be trusted to do such work skilfully and artistically, and at not too extravagant a rate.

If the technical education schools failed in teaching men a little matter like that, what was the remedy? In his humble opinion Mr. Blashill was right in pointing out that they ought to go back to the old system of apprenticeship. He had been apprenticed, and probably everyone present had been apprenticed to his craft or profession, and he altogether failed to understand why the operatives should discourage the apprenticing of boys to their own trades.

It seemed to him the whole thing went round in a circle, and that the plasterer, for instance, in limiting the creation of good young plasterers, was limiting the scope and amount of his trade. Whether that was good political economy he would not discuss, but he felt very firmly convinced that apprenticeship should be encouraged, and without intending to give offence to the trades unions, or in any way to advise them how they should manage their own business, he would suggest that they should very seriously consider the question of apprenticeship being put on a proper and business-like footing. No one, he supposed, doubted the legality of trades unions, which had an interest in preventing "sweating," but were the trades unions looking well to the future, and properly taking into account the problems of capital and labour, supply and demand? Were they not looking rather to the present time, and to the immediate advantage of their own members? Had not the limitation of hours and amount of work which were enforced by the unwritten laws of the trades unions a tendency to drive capitalists to seek labour elsewhere?

Not long ago he met a well-known brother architect who was building himself a house, and who told him that he was having all his doors and sashes from Sweden, as they were very good and cheap, and well answered his purpose. It was hardly pleasant to hear that a London architect had thought it necessary to buy foreign goods to put into his own house. It was well known that, during the carpenters' strike some six or seven years ago, one of the leading firms of builders had very seriously considered the question whether they should set up works in Belgium, where they could get labour without these trade troubles and somewhat cheaper. He feared the unions were making labour so expensive that they were crippling the market; and after all, was not the regularity and reliability of labour, and the confidence with which it could be counted on to carry out what was required, the only basis on which the trade of a country could flourish and increase?

In the current number of the *Nineteenth Century and After* there was a very able paper (if he might say so in the author's presence) by his friend Mr. Woodward on this question, in which occurred the following passage: " The Labour Department of the Board of Trade " have recently issued a report on the changes in the rates " of wages and hours of labour in the United Kingdom in " 1899, based on statistics from which the following are " extracts:

> 'The net result of the changes in wages of all classes of workpeople in 1899 was an aggregate rise of wages of no less than £115,000 per week, compared with £95,000 in 1898, and £45,000 in 1897. It will thus be seen that the rate of increase in 1898 was maintained in 1899. Great, however, as was the rise of wages in 1899, it has been considerably exceeded in the eight months of 1900 which have already elapsed up to October 1900. The changes recorded during the period may have affected nearly a million individuals, and have resulted in a net increase of more than £150,000 per week, by far the greatest rise recorded in any similar period.' "

These were very large figures, and Mr. Woodward had very rightly asked what advantage had accrued from such great rises in wages. Were the mechanics better off? Were they putting by for the future and making a provision for old age? Such questions must present themselves to any thoughtful man who studied these startling figures. The mechanic, Mr. Blashill said, had less chance of improving his position than had the clerk in an office, but he thought, on the other hand, there were many situations open for the skilled mechanic as foremen, engineers, or in a similar position. His life was certainly hard at times, but his work had, or should have, a good deal of interest for a skilled man, and he thought that his conditions of labour were often less exhausting and his prospects certainly more hopeful than those of many clerks in many offices. The question was raised in the Paper as to whether the men with this increased wage really worked better in their more limited hours, or not. He was afraid that from anyone who had been much on building works, it would receive but one reply. Whether the workmen thought that restricting the amount of labour was good for the man loafing about in the street and helped him to get work, he did not know, but if they thought so it was certainly a mistake.

The trades unions were trying to step in between the employer and the workman and creating a state of things which could not be viewed without alarm. The interest of the workman was identical with that of the employer, the architect, the builder, the contractor, and the capitalist. They were all in the same boat, but he was afraid not all pulling in the same direction. Surely the interest of all was to work together and so strengthen the whole position. In his humble judgment there was no better way of affecting this object than to have a proper system of apprenticeship in all the trades, from beginning to end.

Mr. HENRY LOVEGROVE (Fellow) said he had very much pleasure in saying a few words in comment on one of the best Papers he had ever heard read before The Institution. Mr. Blashill was right in enforcing the need for a clerk of the works who should be a competent man, not selected simply by favour, but known to be thoroughly conversant with his work. Towards this end the Clerks of Works Society performed a very useful service.

He had known many cases where the architect was obliged to make a stand for the fair treatment of a builder by a grasping client or a committee. To hear some persons talk of a building contract, one would imagine it was a sort of lottery, and that the builder estimated the amount of his tender merely by guess work. They never seemed to realise that the amount was arrived at only after very careful consideration of the quantities prepared by the surveyor. An employer's idea seemed often to be to get the amount of the contract settled, and then to grind as much as possible out of the builder, and to express surprise when he insisted on his rights. In the case of sub-contracts, he thought the contractor should always bind the sub-contractor under the very same conditions as himself. The last speaker had referred to the use of terra-cotta as a frequent source of trouble, and he remembered a case in point. When, after long waiting, the terra-cotta was delivered, it was found that some parts had been moulded the wrong way, and was consequently useless. A similar difficulty often arose with the ironwork, although some contractors were much more reliable than others.

The author had touched upon that very sore point, commission. He often received catalogues containing a slip of paper, on which it was stated that a certain commission would be allowed to architects on the introduction of business. He very strongly advised young men to have nothing at all to do with firms who held out such inducements. Everyone had heard of cases in which it was suggested that architects had received commissions, but he could not think that this was, to any extent, true.

The author had pointed out that, very often, the general contractor was not a practical craftsman. Some provincial contractors were better craftsmen than the London builders, who were in many cases concerned rather with the finance than with the practice of their business. He had formerly a great deal to do with country work and country builders, and found them generally practical men. They had not so much on their hands, they had been brought up in turn to adopt their father's trade, and they were, as a rule, thoroughly competent craftsmen. But even if a large contractor were not himself skilled, he was able to employ competent assistants to manage the work.

Speculative builders were, he thought, a necessity now-a-days, when no one cared very much how a dwelling house was built, so long as it had plenty of large rooms with tiled hearths, glaring contrasts of very red brick and white stone, and plenty of bay windows.

Under those circumstances it was impossible to build ordinary dwelling-houses by inviting tenders from first-class builders, as no profit could be made out of them: in fact the building would not sell for the cost price.

The custom of keeping an architect is quite the fashion with large speculative builders. He was talking with one of them the other day and asking how all his work got done, and the reply was: "Oh, we keep a staff
" of architects and quantity surveyors. We do every-
" thing. We level the ground, we lay out the roads,
" we make the drawings, and we erect and sell the
" buildings."

With regard to the question of workmen, every architect must feel that much had been lost by the abolition of the old apprenticeship system. The way in which men now became mechanics necessitated the expenditure of a vast amount of time and money on technical education. In the old days of apprenticeship men learned their work thoroughly, and never thought of attending evening classes; but he would never dissuade them from attending evening classes as well, now that they had the opportunity of learning something of the theory as well as the practice of their craft. He often wondered why the building trade was looked after so much by all public bodies and authorities. Everybody was anxious that the workmen should be paid the full rate of trades' union wages, and the hours of mechanics were inquired into and regulated in a most careful way, while the hours of labour and the rate of pay of, say, a carter, a coalheaver, or a brewer's drayman were never troubled about at all.

He saw some well-known contractors in the room, and he should much like to hear from them whether there was not a great difficulty in getting a fair day's work for a fair day's pay.

The question of providing the poorer classes with dwellings was one much discussed: the difficulties were dear ground, expensive building, and enormous rates.

Mr. JOSEPH RANDALL (Visitor) said he entirely agreed with Mr. Blashill's view that before a building was started, the drawings, the specifications, and the details should be placed in the hands of the quantity surveyor. It was quite impossible for the surveyor to take out quantities from drawings such as sometimes come from the architect's office, imperfectly finished and possibly incorrect. This was unfair to the client, and decidedly unjust to the builder; in fact it was simply impossible to make a proper estimate on such drawings.

Many of the troubles between builders and clients and architects arose from defective drawings and incomplete specifications. If bodies such as the Office of Works could give drawings from which the work could be estimated from beginning to end, surely in the case of buildings costing only from £1,000 to £20,000 it was not impossible to give as complete details or to prepare a proper specification. He was now carrying out for the Government a work, amounting to certainly not less than three-quarters of a million of money, and he had found none of that trouble which had been alluded to in running backwards and forwards to get the particulars. Builders were in many cases furnished with details from time to time of, say, a little bit of ironwork, or woodwork, or mason's work, never having the whole thing complete before them; and he knew that such a method made it difficult for the contractor to carry out the work satisfactorily and speedily.

He thought architects should be thoroughly acquainted with details of steel construction. Mr. Blashill had said that many builders nowadays prepared their own steel work, and he might say that his own works were now turning out upwards of 2,000 tons of such materials a year. If architects understood this work thoroughly there would be no necessity for bringing in another man to get another profit from the client. Large provisional sums were often included in the specification, and a sub-contract was entered into with a special firm who prepared specifications, &c., for the architect, thus saddling the client with double profit. It was very difficult to tie a sub-contractor down to time in such a case; he would argue that he was employed by the architect, and did not recognise the contractor except as the person who had to pay him, and whatever might be the delay, there was no claim against him.

He had seen large works carried out without provisions. For instance, many architects put in hot water, gas, and things of that kind, as provisional sums, but there was no necessity for this. The lengths of gas pipes and the number of joints and brackets could be given, without the architect's client having to pay a double profit. The Government did not allow provisions in the estimates, except, perhaps, in the case of a doubtful foundation which could be afterwards measured up, and he did not think that, either in large or small contracts, these provisions were necessary.

Another point Mr. Blashill had touched upon was the value or otherwise of technical education. It was difficult to say whether the system provided us with better workmen. Whereas the workman had formerly to take, for instance, the unwrought timber and do all the various labours on it himself, his skill was now to a large extent superseded by machinery, with the result that there were now very few apprentices, and men crowded into the various trades unions and, so long as they were members of a trade society, must be taken as mechanics. The old mechanics were dying out fast, and he feared there were none rising to take their place. He was convinced that, in order that the country should hold its own, some reversion to the system of apprenticeship was necessary. At the present time it was almost impossible to get manufacturers or contractors to agree to time bargains. They almost always insisted on the clause "Subject to strikes," and would not further tie themselves down.

With regard to the importation of materials, he found that nine-tenths of the glass used in this country was imported from abroad. There were really now only about two manufacturers of builder's glass in England. The same conditions existed in the case of steel. He gave an order last year for about £8,000 worth of steel to a firm at home, but it had not yet been delivered. He gave a similar order in November last to a firm abroad, and the whole of it was now delivered. To give another illustration. Last Friday week his foreman asked him for a new machine for scribing sashes. He sent to three or four English firms, but could get no time for delivery given, except "from three to six weeks." He went to a German firm, who delivered the machine within seven days, and in a day or two it would be at work.

Mr. C. JOHN MANN (Fellow) said that with regard to Mr. Blashill's contention that the employer was entitled to more consideration than he commonly received, there was one point which had not been touched upon. The employer generally knew about what amount he wished to spend, and this amount was very often largely exceeded by the estimates, with results the reverse of satisfactory. This might, he thought, be avoided if a careful approximate estimate were made by the surveyor, and reported in writing to the architect or employer.

It was, as Mr. Blashill had said, no comfort for the employer to be told that the quantity surveyor had made a mistake, but this, he thought, skilled quantity surveyors seldom did, and until it was proved that they were in the habit of doing so, he could not admit that this was a frequent cause of dissatisfaction, or a reason for making the quantities a part of the contract. Mr. Blashill said, "in the case of a public body and of all such clients "as are able to run a risk that is very seldom serious, "the quantities should form the basis of the contract "and, if reasonably priced, should be the basis for "settling the accounts." It would be well to have a little more information on that point. How was it to be ascertained that the pricing was reasonable? Were the quantities to be opened before the contract was signed, and if after, how would it affect the settling of the accounts? That seemed a little vague, and as Mr. Blashill had said in another part of his able and useful Paper, vaguenesss was in every case very unsatisfactory.

The author confined his remarks on this point to the cases of "public bodies" and of "clients able to run a risk "that is very seldom serious," and did not seem to argue that the quantities should in every case be the basis of the contract.

He held that quantities should be prepared so accurately by the surveyor who took them out, that it really would not matter whether they were or were not the basis of the contract. If the employer wished to adhere to his lump sum he could do so, and if he wished to have a great many changes during the work it would be of little moment, because the value could be accurately ascertained. He rather differed again from Mr. Blashill, that "where there were extensive changes, "although the surveyor was bound no doubt to "act fairly between the two parties, while only one of "them was before him, a fair settlement was impossible."

He thought it was quite possible to obtain a fair settlement, and there were generally two persons present, namely, the foreman for the builder and the clerk of works for the employer. If there had been a careful taking out of the bills of quantities, he saw no difficulty in arriving at a perfectly fair settlement of any amount of variations, and he thought it would be hard to restrict the employer from making any alteration which would make his building more satisfactory, because there might be some little difficulty in getting at the correct amount to be paid for the variation.

He hoped never to see in London any of the lofty buildings that had been alluded to as having been erected in America, whatever the width of the street might be. He was very glad to hear so general an agreement that the apprenticeship system should be maintained. It would be a great gain to the trade of this country if it could be largely extended.

Mr. H. H. BARTLETT (Visitor) said he thought the Paper was so logical and so closely reasoned that it left very little room for criticism. The author fully recognised the defects of the present system, but, like a great many other practical men, he saw no clear remedy for them.

Reference had been made to sub-contractors. He thought all builders would, for various reasons, feel this to be rather a sore point. When a sub-contractor was appointed (and in many cases now sub-contractors became rather numerous), the chief contractor had very little control over him. Certain sums were provided under the contract, and the contractor, who was bound down by very strict conditions as to time and the manner of carrying out the work, had no power whatever over the sub-contractor, whom he possibly did not even know. That was a defect in the system which seemed to be quite within the power of the architect to remedy. He was sure works would be carried out much more satisfactorily to everyone if, with a little more confidence in the principal contractor, he were allowed to make the best arrangements he could for carrying out such works.

The question of technical education had been referred to. His own experience, agreeing with that of previous speakers, showed that at present the results were very poor indeed. He did not think the typical British workman of to-day was in the least degree more intelligent than his predecessor thirty years ago. After more than a generation of Board School teaching and technical education, it seemed time to look for at least some results in the direction of improvement, but he was sorry to say from his own experience that the results did not show the progress which might fairly have been expected from the enormous expenditure of money and time. Whether the system was at fault, or whether the people did not take sufficient interest in it, or the men had no heart in their work, he did not know, but he had no doubt whatever of the fact that the intelligence of the British workman had not increased in the slightest degree under this technical and Board School education.

For the introduction of foreign manufactures he thought trades unions were not entirely responsible. Rents, taxes, rates, and outgoings were so very much lower in other countries where joinery, for instance, was made, or where steel and iron were manufactured and sent to this country ready for use. Those items made a great difference in the course of a year. Here we were taxed very highly, we paid very high rents, and in many ways the cost of production was enhanced as well as the cost of labour. Then again, in the case of foreign joinery, it must not be forgotten that there was a good deal of stuff which a manufacturer could turn into mouldings and small work which otherwise would be entirely wasted—not worth exporting as raw material, but well worth the cost of shipping when manufactured. He quite agreed with what had been said with regard to apprenticeship, and he thought the men themselves were beginning to see the folly of limiting the number of lads who might learn a certain craft. He found it easier now to get apprentices, and had now many more of them than was the case some years ago.

During the times of good trade, when business was very plentiful and men were scarce, a great many inferior men, so-called mechanics, but men who had hardly ever held a tool before, were forced into the labour market as mechanics. The contractor could not help himself. The work must be done and men must be got from one source or another, and the employer must put up with the best men he could get. Under such circumstances many men entered the ranks of mechanics who were not mechanics at all, and he was sorry to say that trades unions, who ought to have good mechanics alone in their ranks, did not insist that all their members should come under that description. The contractors, in many cases, had been told by representatives and delegates of the trades unions that they would undertake to supply first-class men who could do a first-class day's work in any number required, but when such a requirement was made he had often found the result to be altogether disappointing—they could not supply the men because they had not got them, and because a great many of the men on their books were not properly trained mechanics at all.

He was a little amused when he read in Mr. Blashill's Paper that he had some of the trades unions' books and rules before him, and that he was rather satisfied with those rules, in which there was very little to complain of. He had read some of those books himself, and he agreed that there was very little to complain of as they were printed. It was not of the written rule but of the unwritten law that employers complained. For instance, men were brought up before their superiors if they did more than a certain amount of work. There was nothing about this in their rules. Nothing in their rules said that a man should dictate as to what part of the work belonged to him and what part to another man. Nothing said that a man should only lay a certain number of bricks per day, and so on; but there was an unwritten rule among the men which was very much more powerful than any printed rule. It was carried out very loyally indeed, and the result of the system was certainly very serious for the country.

This enhanced the cost of building very much beyond its proper value, and workmen were held back from getting the price they ought to get, simply because the standard of work done was brought down to the man of the lowest capacity instead of being brought up to the man of the highest capacity.

Mr. H. R. TAYLOR, L.C.C. (Visitor) said that, as a workman, he felt more interest in the part of Mr. Blashill's Paper which dealt with the labour question than with that which concerned the quantity surveyor, of whose work he knew very little.

He would take Mr. Blashill's Paper in the order in which it was written, and deal with one or two points before coming to the observations of the previous speakers. On page 212 Mr. Blashill spoke of the old time method of getting out joiner's work and masonry, and mentioned the excellent work produced 40, 50, and 60 years ago. With this he entirely agreed, because he had seen some of that work, and he could only say that its very excellence pointed to the fact that men were given more time and had a better selection of materials than at present. Moreover, the men commenced their work and finished it themselves, and naturally took more pride in it than when they had to finish everybody else's work, as at the present time. He knew this to be a very sore point with a large number of workmen, not only in the building trade but in many other industries. He did not think that the joiner mentioned who complained of the builder rushing about in his carriage was worth notice. Any man of common sense knew, as a matter of fact, that a large contractor must get about as quickly as possible in order to deal with the work he had in hand.

The workmen of to-day read what they did not read 30 or 40 years ago. Some of them, at any rate, studied statistics, Board of Trade returns, and so on, and they were beginning to understand that the wealth of the country was accumulating far more rapidly than the population, and at a much greater rate than the increase in wages. As a matter of fact the wealth of the country had doubled itself in 25 years. The population had only doubled itself in 50 years, and he was quite certain that wages had not doubled in 25 years. Those were points that must be reckoned with. He was only putting forward now what was in the minds of the class he represented.

Then Mr. Blashill mentioned the rise in the cost of brickwork, and said that Lord Brassey had, in 1878, stated that the price of brickwork had gone up from £2 7s. 6d. or £3 3s. to about £5. That was all very well on the face of it, but one must consider first of all the conditions under which the work was done. It was very easy to compare the figures on paper, but it was not always easy to find out what difference there was in the conditions of the work. In all probability the work which was carried out for £2 7s. 6d. might be a straightforward job, where a man was not obliged to bend down under a lot of struts, or where there were not a number of framing pieces, or he was not required to flush his work up every four courses, or to grout it at all. That would make a great difference, and he was bound to say, from his own personal experience, having commenced to earn his trade as a bricklayer at 12 years of age (or, just 30 years ago) that a great deal of the increased cost of work was due to a want of management and organisation on the part of the builders themselves. He did not say it was all due to that, but a very large proportion of it was.

He remembered a job of which he had the control, which consisted of putting in the footings for a large chimney shaft. He had three bricklayers at work, who were kept going by one mortar mill, and they could use up the stuff as fast as the mill could produce it. The employer, who was not a practical man, came on the job and asked why only three men were at work instead of six.

He (Mr. Taylor) told him that he would not get any more work done unless another mortar mill was started. The employer did not agree with him, and three more were sent down. When he came to cast up the difference in the cost of the work he found that the brickwork cost 35s. per rod more since the other men started because they could not get the mortar, and were, for part of the time, standing waiting for the material. Very likely the employer may have thought he, the speaker, was responsible or that the men were loafing, but it was no fault of theirs.

It was said that the unions forbade piecework, and would not allow the work to be done in the least number of hours. This was the inevitable swing-back of the pendulum. He remembered that when bricklayer's work was sublet one, or two, or three men would be paid an extra halfpenny or penny per hour to get the corners up, and rush the others along. They were called "bell-"horses." The policy adopted by employers in those days was to get as much work done, for as little wages as possible, and the result has been the present reaction. He, for one, would not defend any man for loitering, malingering, or idling away his time, and he certainly agreed that when employers were prepared to pay the standard rate of wages as settled by the trades organisations, every workman, in honour to himself, as well as to the union he belonged to, ought to be fair. As a matter of fact an unintelligent workman, a loafer, or an idler was treated with supreme contempt by the men.

When speakers stated that it was the unwritten law of the unions that only a certain amount of work should be done he challenged the statement, for he knew very well that nothing of the kind ever occurred, or if it did it was not done under the instructions or with the knowledge of the unions themselves. If anyone could bring a case of that sort before any of the unions, he was quite sure the unions would deal with the members who had so misbehaved themselves.

Mr. Woodward asked whether Mr. Taylor was speaking of work in the shop or upon the building.

Mr. Taylor said he was speaking of work upon the building.

The next most important question was the suggestion made by Mr. Blashill that the method pursued by the Chicago plumbers might be adopted here, *i.e.* to fix the amount of work which should constitute a day's work, and then, if the men could get over it in half the number of hours, they could go home. He strongly objected to that, and believed the majority of the workmen would also, for it must lead to a tendency to scamp the work, which the unions had practically decided they would not give their sanction to under any consideration. If that system were instituted here he was quite convinced it would militate, not only against the best interests of the workmen themselves, but those of the employers and of the public, who would be the sufferers in the long run.

Then with regard to the sub-division of labour and to disputes about the demarcation of trades, he had himself got into some trouble on account of the view he had taken of that matter. He said it was not the business of the trades unions to decide as to what was this man's or what was the other man's work. He was now expressing his own individual opinion, and not the opinion of any union. His opinion was that, so long as the men were working, whether as bricklayers, plasterers, or at any other trade, under one code of conditions, and in respect of the same rate of wages, it was the employer's business to decide what man should do this work and what man should do the other. If he should be working on a job to-morrow, he would not object if the employer put a carpenter to lay bricks and a bricklayer to hang doors. He would very soon discover his mistake.

He thought these small disputes about the demarcation of trades would in time fritter out, and he hoped that time was not far distant.

On the question of strikes and lock-outs he agreed with Mr. Chatfeild Clarke that the trades unions and the employers of labour should pull together. He had from time to time had something to do with most of the builders' societies, and had always striven for peace all round, and condemned any strike or lock-out under any conditions whatever.

As to the question of hammered steel and glass being sent over here by foreign firms, to which Mr. Randall had referred, there was good reason for that. It was not that the British workman wanted higher wages. As a matter of fact a deputation consisting of ironmasters and employés in the metal industries and the engineering trade, which went to Germany, Austria, and all over the Continent, found that the German workmen in the rolling mills, foundries, and engineers' shops were getting higher wages and working under better conditions than the men employed in the same industries in this country. He would refer those interested to the report published by that deputation on their return to this country.

With regard to the question of sub-contracting, he was quite convinced that any attempt to re-introduce sub-contracting, so far as labour only was concerned, would lead to considerable difficulties with the workmen as well as for the employer. He well remembered that the Employers' Liability Act of 1880 gave a distinct impetus to sub-contracting and piecework, because under it the original contractor relieved himself of his responsibilities by letting the work out to sub-contractors. It had cost the unions thousands of pounds to sue sub-contractors, but that was altered now, and the same difficulty did not exist.

He quite agreed with previous speakers that apprenticeship should be reinstated as far as possible. He was quite convinced that if the master builders would only meet the unions on this question it was one that could very soon be settled. He should like to see something better than the present system, where a young fellow went out on to the field with some speculative builder, and then endeavoured to get into the trade by working on a contract job. He was rather chary about the limitation of apprentices, because he believed that every man was born with equal liberties, and no one had a right to limit the number of apprentices in any one particular trade or employment which suited them best, provided they did not injure anybody else.

When Mr. Chatfeild Clarke asked what advantages had accrued to the workmen from the great increase in wages that had taken place during the last 25 years, he would point out that, while the workman of to-day seemed very much like the workman of last week, when one compared the workman of to-day with the workman of 25 years ago, as he knew him, there was a very marked difference indeed. No one was prouder to see it than he was, and he hoped the same difference would occur in the future, and that they would go on improving in the same way.

One speaker had referred to the number of workmen he saw about on the tramcars and elsewhere on a Monday. with a suggestion that these men were idling. If they were doing so, no doubt they ought to have been at work, but in all probability they had been stopped on the Saturday, and were out on the Monday to look for fresh work. There was, he was pleased to say, very little of the "Saint Monday" to-day as compared with 20 years ago. A speaker had referred, as the usual order of things, to the amount of work being regulated by the slowest worker on the job. That was not his experience. Although it might be so in some few instances, one swallow did not make a summer, and certainly a few individual cases of that sort did not reflect on the whole body of workmen.

As a matter of fact, it was his experience that when an old man on a job was not able to do so much work as the younger ones who worked side by side with him, it had always been the practice for the younger men to do more than their share when working on a line, and let the old man do a smaller portion, in order that he might keep his job. That might be new to some people, but it was not new to him.

Much as the workmen might be complained of, it must not be forgotten that the workman of to-day is just what the employer, the general public, the architect, his conditions, his education (or his lack of it), and his training have made him. He frequently found that those who were only too ready to abuse the workman on every possible opportunity had never done anything to raise him from the position they considered he ought not to occupy. His firm conviction was that if the employers and the workmen could only come together more frequently and discuss the various questions at issue, they would get on better, and make a great deal more progress than had been possible heretofore.

Mr. WILLIAM WOODWARD (Fellow) said it had been to him a very great pleasure to listen to Mr. Taylor. When he heard that a trades unionist was about to address the Meeting, he rather anticipated that he would traverse everything that had previously been said on the subject in that room. He expected that he would come to curse, and he found that he remained to bless. He blessed the British workman from his own point of view, and had assured the Meeting that what had been considered a want of vigour on the part of the men in spending their time in doing nothing when they might have spent it otherwise, was not idleness at all, but that the British workman of to-day was one of the finest specimens of humanity that ever existed, and that he did his duty from beginning to end. When Mr. Taylor objected to the observation that there was any limitation of the output of labour upon a building, he would ask him to kindly say whether he stated positively, as his honest conviction, that there was no unwritten law whatever with regard to the number of bricks per day a bricklayer should lay upon a building.

Mr. TAYLOR replied that he was quite certain of that.

Mr. Woodward said he could only express intense astonishment, for by more builders than one he had heard exactly the reverse stated. A West-end builder, some two or three years ago, told him that several bricklayers in his employ had been in the habit of working fairly and constantly throughout the day. One day he found two or three men who were not working, and he asked one of them why this was so. The reply was, "Well, sir, you know I am not allowed to lay more "than 470 bricks a day, and if I attempt to do more, it "will be made so warm for me that I shall not be able to "lay any to-morrow." The reply of Mr. Taylor to his question was absolutely contrary to his own personal experience.

Why should there be any limitation whatever in the number of bricks to be laid per day? Mr. Blashill had put it well, that no man who knows what physical work is, as apart from brain work, would expect a man to start early in the morning and go on vigorously from morning to night at the same pace, and had very properly said, "All we expect is that there shall be a "fair, honest, straightforward amount of work done in "the day for the wage received."

It had nothing to do with the question whether or not the riches of the client increased out of proportion to the wages of the workman. This was a matter of contract arranged by the employers of labour with the men themselves, that they would be paid a certain sum per hour for what was supposed to be the return for a fair wage. It was of no use for him, as an architect, to grumble at his remuneration, because his client was making his thousands when he was only making his tens. He was to be paid by a percentage, and he did his level best to earn that percentage. If the percentage was not sufficient, it was within his province to tell his client so, and decline to do the work unless he got a better remuneration.

With regard to loitering on the building, he was perfectly astounded at Mr. Taylor's observations. He had gone upon many buildings, but scarcely ever without finding groups of men doing nothing. Let any one go, for example, on a roof, and what would he see? He would find the men idling in groups, and, as he had said in the article in the *Nineteenth Century*—to which Mr. Chatfeild Clarke had been good enough to refer—a few years ago, if an architect, or a builder, or the foreman went on to a building, the men who were idling would scatter and set about their work. But now they would do nothing of the sort. They stood still and stared one in the face, as if to say, "Now look at us. We are getting " 10d. an hour; we do not intend to work. What can " you do? You cannot do without us; business is too brisk " to do without us." As he had said, now that the building trade was waning, the men were being brought to their senses, and if the trade further declined they would learn that it was to their interest to do honestly what they were paid for.

The incident of the mortar mill mentioned by Mr. Taylor was an isolated case, which did not really affect the question. Any builder of experience knew perfectly well how easy it was to provide sufficient mortar for the men to work with. He was convinced that it was the unwritten law which prevailed throughout every building that he had been acquainted with, which lessened and shortened the amount of labour, and which would lead, he believed, to most serious consequences.

Again, with regard to the interference with each other's trades, Mr. Taylor seemed to think this was a matter of very little moment. It was, he contended, a matter of very great moment. A case occurred within his knowledge the other day, where a builder had to do a large amount of plain tiling upon a roof. Within his recollection tiling was done by tilers, men who thoroughly understood their work, but now the bricklayer said, "That is my work. If you do not allow the bricklayers "to do the tiling work upon this job they will strike;" and in the case he had been mentioning they did strike, and the builder's work was kept idle for very many weeks, because he would not submit to have his work, for which he would become responsible to his employer, done by incompetent men who did not understand it. So it was in other trades.

He remembered a case where a stone template was required to be laid. The bricklayer in getting on with his work was not allowed to lay that stone template, but the mason who was on the other side of the building had to be brought round to put the template in its place, and then went back to his masonry. Yet Mr. Taylor tried to minimise this. It existed, and while it existed there must be that want of sympathy with the workman, which was certainly detrimental to his interests as well as those of the builder and of the employer. When that organised idleness ceased, then the architect's and the workman's positions would be improved. Although it was to the monetary interest of the architect and the builder to increase the cost of the building, speaking for himself he would be delighted to have his commission reduced by 50 per cent. if he thought that was the result of the workman doing his duty and reducing the cost of the work.

Take again the question of workmen's dwellings. What was the real reason that they could not be built for a price which would give a profit to the man who built them? Not the enhanced price of materials, but the organised idleness of the very man who desired to live in a cheap dwelling. When the British workman was brought to see that Germans and Americans were laying down large plants for the production of steel, and that, as Mr. Randall said, nine-tenths of the glass used in this country came from abroad, he would understand that those were matters which ought to make him seriously consider his position.

He could only wish that the facts were as Mr. Taylor had stated. Mr. Taylor was evidently a man whose opinions were shared, and very properly shared, by every right-thinking person in that room, but he was very sorry to say, not desiring to call in question in any way the *bonâ fides* of Mr. Taylor, that his own personal experience of 25 years was quite contrary to the views Mr. Taylor had expressed. He would mention another case, a new one to him. The other day on a building he was carrying out in the West-end of London the bricklayers had struck. The reason was that a man came back to his work, after the dinner hour, drunk, and the clerk of works refused to allow him to come on the building. The bricklayers said, "Unless you allow that "man to go on we will strike," and they struck. Every bricklayer went off the building. Fortunately he was able to get bricklayers from the country and the building proceeded. Was a builder to allow a drunken man to go on a building, at the risk of having to pay £150 for an accident under the new Act, and either be put to all the troubles that might arise or submit to a strike? Surely that was a state of things which ought to engage the attention of every thinking man, and he hoped that the observations which had been made in Mr. Blashill's most excellent Paper (one of the best Papers he had ever heard in that or any other room), and the criticisms which those observations had brought out, would lead the British workman to think seriously of the position of himself to-day and of his sons in the future. Surely they might look forward to their sons having some chance of employment in the future, and not think so much of their own immediate interests. That observation applied of course not only to the British workman—he would be as ready to condemn the architect or the lawyer or anybody else for the systematic idleness which he knew from his own personal experience prevailed in the building trade.

He was very glad to have heard the views of Mr. Bartlett and Mr. Randall. Mr. Randall had been very outspoken about the architect. He was perfectly right. If the architect would only write his specification and make out his full-sized details before the job started the building would be done far better, in quicker time, and more satisfactorily to everybody. But—well, there it was!

With regard to the quantities becoming part of the contract, he differed from Mr. Clarke and Mr. Randall for the reason that if the quantities are not part of the contract, and the quantity surveyor had made a mistake—not perhaps himself, but, say, through in his outer office—and 50 rods of brickwork were put in too much, the client had to pay for them in excess, and if the error was the other way, the builder had to lose the value. He could only again express his personal thanks to Mr. Blashill for his very excellent Paper.

The discussion was then, on the motion of Mr. P. E. Pilditch, adjourned to the next Meeting.

AT

THE ORDINARY GENERAL MEETING,

Held on Monday, 25th March, 1901.

JOHN SHAW (President) in the Chair.

The adjourned discussion on the Paper read at the Meeting of February 25th, by Mr. Thomas Blashill, F.R.I.B.A. (Fellow), entitled "The Present Condition of the Building Industry," was resumed by

Mr. PHILIP E. PILDITCH (Fellow), who said he had always known that Mr. Blashill could do a great many things extremely well, but he must confess that it was with some surprise he found he was able to invest so dry a subject as this with so much genuine interest. On coming to discuss the Paper there arose a certain preliminary difficulty, in that it seemed to deal with two really distinct subjects. The first part had reference to the relations of the architect and surveyor with the client and the builder, and the latter part with a matter of even greater importance, perhaps—not only of professional importance, but of national importance—the question of labour and its present effectiveness, especially in connection with the building industry.

Each of these two was a tempting theme, and each would form a sufficient basis for a separate speech;

but he proposed to deal shortly with the first, and then, if he were permitted, to make a few remarks on the second.

With reference to Mr. Blashill's suggestion that all details should be completely ready before the building was begun, he agreed, to a great extent, that this would be very desirable if it were possible, for it would give the builder a fuller opportunity of making a close estimate; but he could not help thinking that this was a counsel of absolute perfection, and one which most surveyors in practice would find exceedingly difficult to follow.

His experience was that the employer seldom made up his mind to start building until quite the last moment, and that he liked, moreover, to exercise (as he had a right to do) his own individuality on the details of the work to be carried out. If all the details were prepared beforehand, cut and dried, it frequently happened that the client, when he saw the work in course of progress, found they did not entirely agree with his ideas, and in such a case the very delay ensued which it had been previously sought to avoid.

He thought most architects would bear him out that there was always a very useful margin of time in the initial stages of a building job, when the foundations were being put in, and during which no details could possibly be wanted, when an opportunity occurred for quietly working them out in the architect's office. Therefore, although he thought Mr. Blashill's idea certainly a good one where it could be carried out, he did not think that in most cases it was practicable.

He quite agreed that more time given to the drawings at the beginning would avoid a great deal of delay in the execution of the work; but he did not think that in many cases it would be possible to complete them so fully as was suggested.

There was another point in the first part of the Paper on which he did not quite follow the author, who said the quantities, "if properly priced," should form the basis for a settlement. He did not quite understand that the quantities being priced by the builder must, if they be accepted as part of the contract, be the basis of the final settlement of the account. It very frequently happened that the builder had special reasons for pricing some things high and others low, and it was impossible, to his mind, to depart from the basis of the contract in settling the account.

Another exceedingly interesting point raised by Mr. Blashill was with regard to the question of subcontractors being under the direct orders of the architect, and provisions being inserted for that purpose in the specification. He had tried that (and also the opposite plan), and he must say had found by experience that it was very advantageous in many ways. It was most important in the matter of ironwork and large fittings for buildings, such as lifts, to have something in the shape of a provision for the work which must be left under the direct control of the architect. As to Mr. Blashill's contention that the builder would not then obtain, as he should do, his proper profits on the work, he did not see why that necessarily followed. When a builder was pricing his quantities he had the amount of provisions before him, and it was open to him to add to the provisions a sum for profits. If he cut out such profits, as in the case to which Mr. Blashill referred, with a view to reduce his tender, then he surely did so at his own risk, and must take the consequences on the settlement of the account.

Another rather interesting point was with regard to the direct employment of workmen and the completion of the work without the intervention of a contractor. He had a case some two years ago in which a client determined to adopt this course, and did so under specially advantageous circumstances. He had a foreman who had previously completed building works for him on a smaller scale, and very excellently they were done, and he put this man on to carry out the new job.

The result was entirely unsatisfactory. As a matter of fact, he felt perfectly certain that although something was gained by the immediate relation of employer to workmen, to the extent that it was sometimes possible by giving a farthing or a halfpenny above the current trades unions prices to get the work done while other work was standing still because of difficulties between contractors and builders, this did not make up for the delay caused in other ways.

At the completion of the job it was found, from careful notes made during its progress, that it took twelve months longer than a contractor was actually willing to do it in, or nine months longer than he (the speaker) anticipated, allowing three months for extra work.

But that was not all, for the cost of the building came out at something like 20 or 25 per cent. more than a contractor would have done the work for, partly because the employer had none of the large plant and facilities which a contractor always had.

He always advised a client, and would do so again, not to adopt that course. He was convinced that the long experience of most present-day contractors in carrying out building work was of great use, not only to the architects, but to the employers who availed themselves of their services.

That was all he wished to say on the first part of Mr. Blashill's Paper, and he would now deal very shortly with the important subject with which the latter part was concerned, feeling that all present would join him in expressing a sense of obligation to the author for bringing it forward.

No doubt public, as well as professional, attention had been directed, for some time past, to the question of the effectiveness of modern labour and its influence, not only on individuals and the trade, but on national interests generally.

He thought that, during the discussion, every previous speaker, with one exception, had some fault to find with the British workman, or rather with the British workman in the building trade.

It seemed to him that there were two general complaints, the first being with regard to indifference and lack of keenness on the part of the workman. A good many instances had been brought forward as to that want of energy and lack of value, if he might say so, in the workmen of the present day.

The speaker who, at the last Meeting, claimed to represent the British workman, said that "Saint Monday," as he called it, was dying out. He feared he must say that this did not altogether coincide with his own experience. Taking an interest, as he did, in the question of labour as applied to building, he had kept an account during the past year or two of this very matter of "Saint Mondayism," and taking the most favourable kind of jobs from the point of view of the workman, *i.e.* large jobs going on in London, where one naturally met with the best class of workmen that could be got, his experience was that 10 per cent. of the men did not put in an appearance on Monday.

He had two jobs in hand at the end of last year, when Christmas day fell on a Tuesday, and the contractors thought they saw a way out of the difficulty of an indefinitely prolonged Christmas holiday by closing their works altogether for the week, in order to leave no excuse for the men not resuming work at the proper time on the Monday following. Unfortunately the result was exactly the same, and rather over 10 per cent. of the men failed to turn up on the Monday after the holidays. The habit seemed to be almost ineradicable among a certain proportion of the workmen.

That was one of the most serious complaints made against the effectiveness of modern labour.

Another complaint, which, from another point of view, was perhaps even more serious, was the tendency of the men and the unions to act on the belief that they benefited themselves by restricting the output in order to raise wages. That tendency existed, he feared, not only among the men, but also among the organisations which led them, and he thought this was clearly shown in the charge made for overtime. In all the trades concerned with building (with two exceptions), if one wanted the men to work for a quarter of an hour or half an hour after five o'clock, whatever the pressure might be, one must pay "rate and a quarter." This made it almost prohibitive for the contractor to work overtime unless he were allowed something extra by the employer. He could not, for obvious reasons, get a different set of men to come and work during that overtime. There were two trades, however, that would work up to seven o'clock without being paid the extra

25 per cent. for overtime, viz. the plumbers and the labourers.

He found it quite impossible to understand why the trades unions did not adopt some system of permitting the men to work on occasion up to say six o'clock without charging the extra 25 per cent. It was entirely a question of the unions prohibiting this, for he knew that many individual men would gladly stop for another hour to work at the regular rate. He could not help thinking it would be for the benefit of the men as well as the contractors and employers were they prepared to do so.

He had been on a job that afternoon, and, it being daylight, he did not notice the time until suddenly he found that everybody had gone. The scaffoldings were all empty, and he was talking alone with the foreman, where a few minutes before there had been a number of men around him busily at work. He looked at his watch and found it was five o'clock. The job was a very pressing one, and he said to the foreman, "Would not "those men work on for an extra hour? As it is day-"light, would not they work till six o'clock?" "No," he answered, "they would if I made a fuss about it and "paid them rate and a quarter, but I could not do that, "for if they worked late to-day there would be no reason "why they should not to-morrow if you wanted the job "got on with."

He only used that as an illustration of his point that this tendency of the men and of the unions was based on the idea that reducing the output would keep up wages. He thought that deserved the most serious attention of the leaders of trade unions. He did not altogether blame them individually for their action. So far as trade unions were concerned, the fallacy he had referred to was an economic one, and that was hardly the occasion to go into it at length. In some respects he was convinced in his own mind that the influence of the unions was not altogether bad—in fact, it was beneficial to the workman and also to the employer and the general public as well. But the influence for good of trade unionism on workmen and their efficiency in the building trade was lessened by the fact that the unions were not nearly so careful as they should be as to the class of men they admitted to their ranks. This might not appear to greatly affect architects and employers or the general public, but as a matter of fact it did so.

It must not be thought that it was more a matter for the trade unions than anybody else to be careful whom they let into their trades. It was not so, for if they let in an indifferent workman he was bound to be paid at the full rate. He believed that at the time of the last great strike a large number of incompetent men were admitted, and were entitled to receive wages at the highest rate, while they were only worth perhaps three-quarters rate, and would never be able to get the full trade rate if they were not permitted to become members of a trade union. As he had said, he did not think that the influence of trade unionism was altogether unbeneficial to the workman, and through the workman to the community at large. The rate of wages in the building trades had risen considerably during the last 25 or 30 years. From inquiries he had made in the trade, supported by his own experience, he believed that the rise for bricklayers and carpenters had been from 8*d.* and 8½*d.* to 10½*d.* an hour during that period. That was a very heavy increase, representing about 25 per cent. to 30 per cent.

There was no doubt a good deal to be said for that augmentation of wages—for instance, rents had been raised, and it would be found that where a workman used to get a good cottage for, say, 5*s.* or 6*s.* a week, he now has to pay 10*s.*, in the suburbs. The cost of many other things had risen with the rise of the general wealth of the nation, and the workman was in fairness entitled to some rise of wages, but the great question was, had the workman risen commensurately in effectiveness. ? He, the speaker, had gained a good deal of his experience in connection with this question of the present effectiveness of labour from friends of his—men belonging to the working classes themselves—and he had learned from some of them who were exceedingly competent to judge, that the average workman of the present day (and by that he did not mean the old worker dating from 25 or 30 years ago, but the average young or middle-aged modern workman) did not do such good work by 25 per cent. as the worker of a generation ago. If that were so, then he thought the case for the great rise of wages that had taken place was not made out as regards the more modern men.

He did not wish to assert that, taking the workmen in the building trades throughout, it would be found that individual labourers in all the trades were worse than formerly. He had come across an instance only two or three days ago, when he remarked to the foreman who was carrying out an ironwork job, "You have some "very good fellows here working for you, have you not?" He replied, "Yes, very good men—my men are not common labourers, they have to get a good deal of "experience, and in many cases they work for me for a "number of years." He, the speaker, asked (referring "to one man), "What does that man get?" The foreman said, "He is a first-class fellow, he has been with me 17 years, and he gets 8*d.* an hour." There was a case where he thought the man was getting a good deal less than he was worth. He was an honest, sound, and conscientious workman, as he was glad to think a great many of the workmen were.

Where he thought the difficulty arose was, as he had said, that the trade union system brought in a number of men who had no claim to be treated equally with those honestly entitled to the full trade union rate of pay.

He thought, however, that the workmen of the building trades were not the only class of the community who had evinced a desire of late years to attain a greater standard of comfort in return for less exertion, and he trusted that the period of sharp competition in commerce and manufactures, which was clearly about to ensue, would result not only in the workman, but also in the British manufacturer and commercial man, making renewed efforts to attain the highest standard of efficiency, upon which alone large profits depend.

Mr. T. M. RICKMAN (Past-President) said it gave him very great pleasure to express his appreciation of the Paper read by his old friend Mr. Blashill.

Since Mr. Blashill had been connected with the Metropolitan Board, and subsequently with the London County Council, his name had become well known in London, and he had been called upon to give decisions on a great number of most difficult questions, very few of which had been overruled on appeal.

The author in his Paper dealt especially with that most important factor in all questions of building operations—the workman himself. Each man used to working a certain material (say a particular stone) would treat it in his own manner, and to an expert it was easily perceptible whether his method was correct and adapted to his material, and whether his work was honest and best calculated to produce the result which the architect, in the client's behalf, aimed at attaining

An architect, to fully understand the value of each man's work, must study the methods of joiners, carpenters, plumbers, plasterers, and the other trades.

Within the last 50 years machinery had so far been brought to bear on almost every one of these trades, that whereas, formerly, a very large part of the work of the artificer was physical exertion, machinery now accomplished all, or nearly all, the labour for which he had relied on his muscular power. He must still use his hands, it was true, but not to do that hard work which his predecessors accomplished, unaided by artificial methods.

It might well be contended that a workman who, beyond the advantages of a practical physical training in his daily work, had also an acquaintance with the technical detail, and a scientific instruction in the principles of his handicraft, while his conditions of existence were improved and his hours of labour shortened, ought at all events to produce more and better work than was possible under the less advantageous conditions of 50 years ago. The details given in the Paper and the remarks of previous speakers showed what was the actual result at the present time. The hours of labour had been shortened, the amount of work done in the hour had also been reduced, while wages had been very largely increased. He remembered discussing some 40 years ago the question of wages with an intelligent joiner, a young man of about 20 years of age, whose ambition was to be able to earn a pound a week on which to marry. Few joiners, even young men, would now be content with less than twice that amount.

One would have hoped that the artificer, freed from hard physical exertion by the aid of new appliances, would be able to exercise his wits, and be willing to do the best he could to make for himself a position in the world; but he feared that there was no near prospect of the fulfilment of this hope.

He had had something to do with suggesting that Mr. Blashill should be asked to write such a Paper as that which he had contributed to the *Transactions*. He had proposed to limit it to a consideration of the effect of machinery on the work produced and on the position of the workmen, but Mr. Blashill had covered a very much wider field, and had dealt with the various conditions necessary to enable a workman to earn his living, under which a building might be erected in the interests of the employer, of the employed, and of the community.

Time did not permit his dealing with all the various subjects embraced in the Paper, but there were one or two points to which he would like to call attention. The position of the architect as an arbitrator had been mentioned, and there seemed to be some difference of opinion as to how far he was an arbitrator between the parties or to what extent he was a servant of the employer. But it should be remembered that no barrister ever became a judge until he had been many times first a plaintiff's advocate and then a defendant's. By taking alternately one side or the other in disputed questions, and always doing the very utmost in his power for his side, he acquired a habit of balancing the respective claims in any case which might subsequently come before him as a judge. Now a building surveyor had a similar opportunity. He was sometimes engaged on the side of a builder and sometimes on the side of the architect, but if he were conscientious he always did the best for the side with which he was concerned.

An architect who might be called upon to act as arbitrator as between builder and client, had probably been very seldom employed to represent a builder's case. He constantly appeared as representing the client, and his own view was that if an arbitrator, in the true sense of the word, were required, the surveyor was more suited by his training for the office than the architect.

Reference had been made in the Paper to the use of iron, steel, and other materials in buildings, and it might be permissible to observe, parenthetically, that it had always struck him in studying buildings, ancient or modern, that whatever material was employed it dated itself. One could easily tell whether any modern building was erected before or after cast iron fell out of use and wrought iron came in, or when rolled lead superseded cast lead. It was not difficult to decide by a glance at a mere bit of timber the date at which it was embodied in the structure. One could see by the saw marks whether it had been wrought with a circular saw or a straight saw, and so, indeed, by examining the materials found on buildings, it was possible to tell within a few years at what date each particular portion of each building was begun and completed.

In the old days, buildings were erected—whether of stone or brick—of the local material, and the timber was of local growth, and every piece of material in the building showed the workman's handiwork. But now the evidence of machinery was everywhere visible. The mark of the present day building was the mark of the machine tool.

The relative positions of employers and architects, or surveyors, or contractors, or the division of trades, were questions of the utmost interest to all practical men, which might at some future time be, with advantage, thoroughly discussed, but he would not now deal with them. He must content himself with calling attention to the fact that the question between employers and architects was one of time. The use of machinery was greatly a matter of economising time. It was employed, not merely to shorten the number of days during which the work was being completed, but to save the hours of labour of the workmen. Many of the differences between architects and surveyors were dependent on this ever-present factor of time. If the architect were allowed more time, he would prepare his drawings in detail, as used once to be the custom. Every drawing was, in the days of his own articles, furnished well beforehand, and no question of details was ever raised during the progress of the work.

If no time were allowed to the contractor, he could hardly be expected to make his arrangements completely, and he must either prepare the various joiners' or other work without details, or take the chance of their being right, or else the work must be delayed.

The question of the division of trades was based on very much the same principle. If the architect and client could make up their minds in time, and allow some reasonable period in which to incubate the details, then many of the troubles about sub-contracts could be obviated, but time was always running and always interfering with the best laid schemes of men, and he feared that all the modern architect and those under him could do was to carry out the work as efficiently as they could under circumstances of the highest possible pressure.

Mr. E. Dru Drury (Fellow) said he approached the question from the point of view of a district surveyor who had held that position since June, 1870, and as one of those objectionable persons who had also the right of private practice.

A point on which great stress had been laid in the Paper was the want of adequate time allowed to the architect by the employer—that unfortunate individual who seemed to have nobody to speak in his favour. He might be allowed to illustrate this point by an instance within his own experience. Some few years ago he was consulted by the manager of a large company, who wanted a new factory erected in addition to an existing one, and had, moreover, to acquire a site. On the land selected there were, unfortunately, many weekly tenants who had to be got rid of at once. The manager left the whole matter in his hands. It took about three weeks to secure empty possession, and to get the terms settled and sketch drawings made. These were approved by the manager, who asked how long it would take to put the building up? It was estimated that the work could be completed in about three months, as it was a very plain, simple, sort of building. But when could it be begun? He thought that to finish the drawings and specifications and have the quantities prepared, and get the tenders, would take perhaps six weeks, but was met with the demand that the building should be finished in three months, and the work begun within a week. It might have been very foolish on his part to agree to try to do this, but he did.

The client suggested sending for a certain builder who had done similar work before. He (Mr. Drury) showed him the drawings and the heads of the specification for the work, which was to be carried out as nearly as possible in the same way as the last building he had erected. He then asked the builder for a price, which he gave, arriving at the amount by so much a cube foot, and, although at first in some doubt, agreed, after some persuasion, to finish the building in three months. He (Mr. Drury) drew up the contract on one of the forms recommended by the Royal Institute of British Architects, which was duly signed then and there. The drawings and specifications were prepared, and the whole thing finished within the three months. That was an exceptional case, but it illustrated his point as to the difficulties arising from the shortness of the time allowed by employers, both to architect and contractor.

To quote an instance of almost an opposite case. In August last he was consulted by a client who wanted to rebuild. He said there was no need to hurry, but that he had agreed, under a new building lease, to take down and rebuild the premises. There was in fact no necessity to start before Lady Day; so that it was not until after his summer holiday that he set to work to prepare the drawings, which were duly approved. This involved an application to the London County Council. Some Members present had probably had experience of the rapidity with which one could pass plans through the London County Council, but, in spite of the pace at which the matter proceeded, the whole was in due course completed. An estimate was made by the one builder asked to send in, and to-day the work was being commenced, and was to be finished in six months. In that case ample time was allowed to the professional man, while the builder fixed his own time, and no question was raised about it.

In the previous case application had to be made to the Factory and Workshops Department of the London County Council, whose demands in the way of staircases fire-escapes, and safety doors were certainly, if he might say so with respect, extraordinary. His experience of that department led him to advise anyone submitting plans for approval to show as few of these appliances as were likely to pass, for if everything conceivable was provided the department would still ask for more.

One word about the British workman, for whom he had a great respect. He was thoroughly in favour of workmen combining for their own protection against capital. Professional men had to do exactly the same thing, whether as Members of The Surveyors' Institution or The Royal Institute or some other body, and it was right that workmen should combine to do collectively what it was impossible for them to accomplish by individual action.

It had been said that the unwritten law of the trades unions limited a bricklayer to laying 470 bricks a day, but according to his inquiries this was a very liberal estimate. A building surveyor and a foreman had that day both assured him that 400 was the number generally regarded as being a day's work for a man, who could easily, if he liked, lay 800.

In his judgment, the great evil of the system was the levelling down principle of the trades unions. As was said with perfect truth by the author of the Paper, the average workman had unhappily no incentive to do his best. A young professional man, after serving articles to an architect or a surveyor, began as assistant in the office and looked forward to the time when he should be a prosperous principal, but any similar prospect was almost beyond the farthest view of the British workman, who was ruthlessly condemned by the unwritten law of the trades union to keep down to the level of less capable and less industrious fellow workmen. In spite of what Mr. Taylor or anybody else might say, everyone who had carefully studied the subject knew that this was true.

Another fact to be regretted was the great decline of the apprenticeship system. It was impossible in most places to get a supply of properly trained workmen, for the simple reason that few had ever been apprenticed. A recent article in the *Times*, in which it was stated that workmen were not now apprenticed as they used to be, elicited an answer signed by eleven secretaries of trade societies, all upholding apprenticeship as the proper way for craftsmen to learn their different handicrafts. They said that technical schools were all very well in their way, but did not supply the want, and moreover were not always within the reach of the great majority of the young men serving their time. They were good adjuncts to apprenticeship, but nothing more. A friend whom he met that day told him something about technical schools that threw some light on their methods. He said he was asked to take a surveying class in a technical school at a certain fee per night. He was informed that his duties would consist in turning out young men who, when they had gone through their course, could take a surveyor's place. His friend naturally objected. He had served three years' articles and given a good premium, and could hardly be expected to turn out, after a three months' course, men who would compete with him or his fellows in the surveyor's profession.

With regard to American buildings, the Dean of Denver, who was a personal friend of his, told him of some buildings in Denver, one of which, an 18 or 20 storey building, had in the centre a grand staircase with bronze balusters and a brass handrail, to polish which was one man's work. On Monday morning he started at the top storey, and by Saturday afternoon he had worked down to the ground floor, to begin at the top again next week. But speaking seriously of the American system of skeleton iron or steel construction as applicable to London, he might mention his experience of a building designed on a somewhat similar plan, although on a much smaller scale.

The building was of 16 equal sides, with walls 50 feet high or thereabouts, and consisted practically of 16 iron legs supporting an iron roof, with walls enclosing it between the legs.

Being a public building, it came under the provisions of the 1855 Act, and the district surveryor had to approve the construction of the walls, floors, and staircases, &c. According to the First Schedule of the Act, walls of buildings of the warehouse class (to which it was a general practice that public buildings must conform) must not be of less thickness than $\frac{1}{14}$th of the height. An easy mental calculation showed that a building 50 feet high required walls 43 inches thick at the bottom. Under the old Act, if a disagreement occurred between the district surveyor and the builder, it was to be referred, not to a Tribunal of Appeal, as at present, but to the Board of Works, to whom the district surveyor, the builder, and the architect went. The district surveyor held that, under the Act, the walls must be of the prescribed thickness, unless with the special permission of the Board. This was obtained, and the building, which was the present "Niagara," was completed with 18-inch walls to the gallery level and 14-inch walls above. It had since stood perfectly well. Mr. Blashill would doubtless remember the case, as he was at the time superintending architect, while he (the speaker) was the obstinate district surveyor.

In the case of the gigantic buildings so rapidly put up in the United States, he did not gather how the architect managed his drawings, or whether he made them before or after the work was done.

Mr. W. Shepherd (Visitor) said that, speaking as a contractor, he regarded the Paper as altogether beyond criticism. It bore throughout evidence of careful thought and mature experience, and the case could not possibly have been more fairly stated. It was difficult for a contractor to appreciate the extreme consideration which Mr. Blashill demanded for the client or employer. His own experience, which was not a small one, was that the client was the source of all the trouble which arose in the carrying out of building contracts. It was possible that in the first place a client went to his architect with a very complete idea as to what he wanted, but there was much in Mr. Clarke's remark that the architect did not always enjoy his full confidence. The client had no doubt made up his mind as to the building he wanted, and how much money he would like to spend on it. The architect could design exactly the sort of building required, but, in nine cases out of ten, the client's ideas as to cost were altogether inadequate, and the architect was then in a difficult position. What was he to do? He prepared the plans without troubling the client much about the specification, although he believed some clients wanted to look into that. At any rate the designs and plans were prepared, and the client then asked as to the cost. This was a very awkward question for an architect to answer, however great his experience might be. Every building job had its own price, and it was not possible to adopt any rule of thumb method of arriving at the value of any particular building. The architect, if he were a wise and prudent man, would refuse to commit himself to any fixed price, but would propose that tenders be invited. The amount of the estimates would then be found to be far in excess of what the client was prepared to spend.

Then came the difficult problem of a satisfactory compromise. The quantity surveyor was often at this stage left out of consideration, and the architect endeavoured, by slicing away some portion of the design and by modifying some dimensions, to bring the estimate within the prospective amount fixed by the employer. Thus things were sometimes omitted which, if the building were carried out, had to be put in again, and complications arose, in a manner quite familiar to many present. A building contract often began with difficulties created by the client's uncertainty as to what he wanted, and frequently ended in complications caused by an attempt to reconcile his wishes with the means available for their fulfilment. He thought that, in his Paper, Mr. Blashill hardly assigned to the quantity surveyor his proper position, but had treated him rather as a necessary evil. Considering modern methods, and the very great importance of time, he feared that if it were not for the skill of the quantity surveyor contracts would be very much more difficult to carry out. If a client wanted tenders from a number of contractors, and each contractor had to take the architect's plans and specifications and make his estimate, in the light of his own interpretation of them, would not time be wasted?

He fully believed that, as a rule, the quantity surveyor endeavoured to act with strict impartiality between the parties, and he quite agreed with Mr. Rickman that the surveyor was more fitted to act as arbitrator in building disputes than any other professional man.

Previous speakers had referred to the possibility of dispensing with sub-contractors, and to the inconvenience caused by their employment. But as he understood matters, "sub-contractor" was a misnomer, for in such cases a man would be better described as a specialist. If an architect had sufficient time allowed him he should be able to specify definitely, and to show clearly, the details of everything required for the completion of the building, and if this were done he was certain it would be to the client's interest to let the general contractor deal with all the special works.

With reference to the difficulty, referred to by Mr. Blashill, that an architect had to face in inserting provisional sums, and taking precautions to ensure the contractor providing his own profit, the system was seldom attended with satisfactory results.

He had known, in practice, many instances where the architect had made large provisions in his quantities, and where 10 per cent. had been included for the builder's profit, but in pricing the estimate the percentage had been left out, and after the bill had been fully priced a discount was taken off, leaving the unfortunate contractor (of course through his own fault) to pay, as the net sum for those special articles, more than he had allowed in his estimate.

If there were no provisional sums this could not occur; a contractor would have to get estimates from the specialist and then deal with them as he thought fit, and thus in some instances an injustice might be avoided.

As a contractor he might be expected to take special interest in that branch of the subject which Mr. Blashill had left to the latter part of his Paper. He certainly was very much struck by the remarks which fell from Mr. Taylor at the last Meeting, and he thought that speaker was to be complimented on the candid way in which he made his statement, with which, from Mr. Taylor's point of view, there was not much fault to be found. It was within his own knowledge that Mr. Taylor was appointed to settle a dispute between two trades which claimed to do certain work. Mr. Taylor, a bricklayer by trade, decided the case against the bricklayers, and he thought that a man who would do that certainly merited credit for an impartiality which had brought a good deal of trouble on himself. It would be observed that, in his remarks, Mr. Taylor claimed to speak for himself alone, and to a certain extent dissociated himself from the collective opinion of his class. He (the speaker) had very little fault to find with what Mr. Taylor said. As a practical man he, of course, took the tale about three men using up as much mortar as a mortar-mill would make in a day for what it was worth. He should like Mr. Taylor to find him three such men who would keep a mortar-mill constantly going.

He did not think there was any deep laid conspiracy on the part of workmen to diminish the output or to do a minimum amount of work; but he feared the whole life of the men and their views of the relationships between labour and capital were poisoned by Collectivism. He observed that Mr. Taylor said that when working on a line the younger men would take a longer stretch on purpose to ease the older men. It might be so in some cases, but an instance of the kind had never come under his observation.

He remembered when there was practically, but one trades union, and that was the Operative Stonemasons. A bricklayers' or a carpenters' society was not heard of in those days. He did not think they came into existence until after 1860. It might be interesting to know something about that masons' trades union, which was really the forerunner of all the others. The Masons' Union was not instituted for the purpose to which trades unions were now applied. It was purely a benefit society, which made grants to members out of work, passed them on from one town to another and allowed them travelling expenses, and so far was a very beneficial institution for the men ; but he believed it was in the great lock-out in 1858 or 1859, and during the building of the Houses of Parliament, that the funds of the Masons' Union were first applied for the purpose of getting a rise of wages.

At that time, in the case of the Masons' Union, if a man were promoted to be a foreman he had notice at once from his society that he was not to attend any of their lodge meetings. They could not exclude him from the society altogether, even if they wished to do so, for he had paid his subscriptions and was entitled to certain benefits. It was quite otherwise now. The bricklayers', the plasterers', and the joiners' societies all endeavoured to force a foreman to join them, for the purpose of having him under their control and preventing his exercising any preference in giving employment to workmen he knew to be competent.

How that condition of things was to be altered he was at a loss to know. Of course, it was now very difficult, for in all contracts for work executed for public authorities it was stated that the workmen were to be paid the trades union rate of wages and that the hours were to be those recognised by the trades union. This meant that, however incompetent a man might be, he was to get the trades union rate of wages, and while that was so, what incentive was there for a man to excel either in the quality or quantity of his work ?

Mr. A. VERNON (Fellow) said he had followed the Paper with much interest. It opened up, with great skill, a subject of infinite variety and immense importance. There were about 70 subjects, each of distinct interest, referred to in the Paper in a manner well described by Mr. Clarke as breezy and animated, and yet, out of those 70 subjects, there were only 12 which were not left for discussion and suggestions. He feared that a dispassionate philosopher listening to the debate would have come to the conclusion that the speakers were really a very pessimistic body of persons. Many severe things had been said of everyone concerned in a building contract, and, until the last speaker rose, he did not hear any expression of appreciation of the architect and his works. The workmen had received hard raps from everyone. Not a single good word had been said for surveyors, except by Mr. Rickman and the last speaker. The employer himself had been spoken of in anything but flattering terms, and even the builders were without a testimonial, until Mr. Shepherd, himself a builder, had given them one. Not to occupy too much time, he thought he might extract from the immense mass of material contained in Mr. Blashill's Paper three prominent points which he would put in what appeared to him to be their natural order of importance. First, the relations between capital and labour. If he thought that Mr. Taylor's view were to be accepted he should have left the room with a feeling of sorrow that such hard things had been said of trade unions, which were apparently such good representatives of the working men; but most Members present would remember some experiences similar to those of Mr. Woodward, and would hardly feel that Mr. Taylor's view altogether commended itself to them as consistent with actual facts. They must also feel that there was something entirely wrong at the present time, and for many years past, about labour. John Stuart Mill said he did not believe that the labouring classes would be for ever content to work for wages. He said—and this was only 40 years back—that "their sole endeavour was to receive as much, and to "return as little, in the shape of service, as possible." Mill suggested that the remedy was a partnership, either with capitalists or between themselves, and it seemed to him (Mr. Vernon) that this was the great problem which it was necessary to solve. All must desire that men should be neither limited in their output nor thrust down to a common level, but that each man should be at liberty to use to his utmost the ability which God had given him in order to earn an amount of wages adequate to his best services. That seemed to him to be the only solution of the present most unfortunate condition of the labour market.

In trades unions, as such, he saw no harm, and he sympathised with them in their endeavours for the moral, intellectual, and social well-being of their members, which he hoped would lead to even better forms of combination. It must be remembered that there were unions and combinations without end. As a sign of the times, he might mention that, when he was recently in Western America, he noticed that the most attractive advertisements which great commercial houses displayed consisted of the words, in the largest possible letters, "No connection with trusts," which indicated that they were holding aloof from those gigantic combinations established with the avowed object of crushing down competition, and manipulating labour and prices at their will.

The rapid increase of the cost of building in the country, as well as in London, was, he thought, a national calamity. To account for it fully was rather difficult, but that it existed was beyond doubt. To take the case of some small houses which he built 30 or 40 years ago—cottages for labourers, such as were still much wanted. He found that many a pair of six-roomed cottages of a model character, and of some 14,000 cubic feet contents, had been built for £300 or £350 each, or at the rate of about 5½*d.* to 6*d.* per cubic foot. Precisely similar buildings at the present day, altered only to meet the modern by-laws, cost from £560 to £600, or about 7*d.* to 8*d.* per cubic foot. How was that increase made up? First, there was the natural rise of about 20 per cent. which might be divided between labour and capital, and then a further increase of 15 to 20 per cent. was due to absolutely unnecessary by-laws. Under the by-laws of his own district it was obligatory in certain cases to put 14-inch party-walls, while outside walls might be 9 inches, and one was not allowed to make any projections or to use timber in the way it should be used. Thatch, heather, and shingle were tabooed, timber practically forbidden, and pretty roof and dormer arrangements rendered impossible. The consequence must be throughout the country a multiplication of monotonous and unpicturesque buildings.

Another point on which he would like to say a word was the relation between the architect and employer, who both deserved, he thought, more credit than had been awarded to them during the discussion. It must be remembered that, in nine cases out of ten, there was no trouble or dispute at all. During nearly 40 years of practice he had never had a suit at law with a builder or a surveyor (he must admit that he had often been very near it, but still he had escaped), and he thought that the possibility of friction had been somewhat exaggerated.

Mr. Blashill, in reply, said he had to acknowledge very cordially the kind way in which his Paper had been received. He need hardly say that it had involved a good deal of research and some exercise of caution to avoid treading on sensitive toes. He was glad to find that he had given offence to no one, and he was fully sensible of the lenient manner in which his many shortcomings had been treated. He would especially thank Mr. Taylor for the candid way in which he discussed the matters with which his Paper dealt and for the general fairness of his criticisms. He had hoped to hear the opinions of one or two other speakers who took the labour side, but he was disappointed to find that they had been unable to attend.

Whether he had succeeded or not, he had tried to treat the question as one affecting everyone connected with building, from the employer to the labourer. Not one of them could be dispensed with: all, as he had said, were rowing in the same boat, and it was to the interest of everyone that all should pull together in harmony.

He hardly meant to say, as one of the speakers had imagined, that the quantity surveyor, should write the specification. While he thought the surveyor would draw up the more logical document, the architect must know best what was intended, and, in point of fact, he ought to write it with what assistance might be necessary from the quantity surveyor.

He still thought, in spite of what one speaker had said, that builders should be encouraged to do the steel work if they would undertake it properly. Steel could be tested even more easily than timber or any other building material. He had been asked how it was possible to ascertain whether a bill had been "properly "priced" when it came to settling up the account. That was certainly a difficult question. The builder did not like the prices in his tender to be seen by the architect but, on the other hand, how was the matter to be settled without them? He had always, in his former days of practice, advised that the settlement of the prices of extras and omissions should be left to his judgement at the end, and he thought that was the best way of avoiding difficulty. On the other hand, he thought it was not advisable, as a matter of business, to leave it to the builder, because, though he might not intentionally do wrong, there had been cases where, by mistake, very strange prices had been put down, which afterwards had to be used for extras or omissions. Why should not the quantity surveyor be allowed to look through the prices? He had no immediate interest in the matter, and might be trusted to give a fair and unbiassed opinion as to whether the prices on which the settlement of extras and omissions must eventually be based were fairly and skilfully calculated.

He could not quite follow Mr. Taylor in his argument that there was a relation between the increase of the wealth of the country and the wages of individuals. It was very difficult to say exactly what individual labour might be worth as compared with the price of commodities, or imports and exports, or taxation, or any other gauge of the wealth of the nation.

As to the alleged unwritten law which prohibited more than a certain amount of work being done in a day, ignorance of it was no proof that it did not exist. He recalled the case of the man who, when charged with committing some crime, complained that he was convicted on the evidence of two men who saw him do it, while he could have brought twenty witnesses who had not seen him do it. He was afraid that the evidence of some such rule was rather strong. His statement, quoted from Lord Brassey's Paper, "that labour on brickwork which "had been estimated on previous occasions to cost "£2 17*s.* or £3 3*s.* per rod now actually cost £5" had been challenged. Perhaps he ought to have said that the firm gave full particulars when that statement was made. The work was on the station and hotel and other buildings at York. It was a very large contract, and there was no reasonable doubt that Mr. Lucas was stating a fact.

It was impossible to prove that trade unions advocated the diminution of work, but he was told that some 10 years ago individuals did so, and their action had a great effect. A builder of considerable position, and very well known to many present, wrote to him that during the last 10 years the increased cost of labour had been from 75 to 100 per cent., and this accorded with a great deal of information which he had gathered from various sources. But if the increased cost of labour had been 75 to 100 per cent., and the increase of wages only something like 10 per cent., it was manifest that the difference had gone somewhere. Where had it gone?

No speaker had seriously denied that there was loitering of some sort, but if they had ventured to do so he could have produced some evidence which would perhaps have convinced them of its existence. He would recommend anyone seriously interested in this question to read books by Mr. Sidney Webb and Mrs. Sidney Webb on "Trade Unionism" and "Social Democracy." These were most valuable works, dealing completely with the country's industries and touching every point of the subject. In one of these books the authors mentioned the system of working slowly. In the North it was well-known as "going canny." Any North Country member present would fully understand the phrase, and he took it that it was difficult to deny the existence of a thing that was well enough known to have a name.

As might be expected, the writers of the books he referred to did not praise the system. That kind of thing had been reprobated by all thinkers, and among others by Henry Fawcett, whose name was a great power not so many years ago, and who used very strong terms indeed in condemning it. Speaking of work and its restrictions, he said that these restrictions could on no grounds be defended, and that even a greater wrong was caused by preventing men from following the employment they would select. He then went on to say: "There is no right to which all men and women "have a more indefeasible claim than absolute freedom "to follow those pursuits in which they are best "qualified to succeed. The laws of every country ought "to secure for everyone this right, for if it is denied "individual freedom ceases to exist."

He agreed in the main with what had been said by previous speakers in discussing the views he had expressed, and he valued their criticisms as adding materially to any usefulness his Paper might possess.

The apprenticeship system might have been, he thought, treated a little more fully, for after all said about its failure, many persons qualified to speak had a firm belief that the system would be revived, and that the well-educated boys who succeeded in our schools would come to work three or four years in shops, and so be trained as really competent workmen.

Finally he would like to thoroughly endorse what had been said as to partnership. Why did not the workman develop something of the kind? If a workman did not like day work he was not bound to it. If any body of men thought they could work better in some sort of partnership, why did not they adopt that system? It was quite open to them to do so, and he was sure that no reasonable client or architect would be unwilling to recognise such a combination, and he should think builders would not be jealous of it. It might be one means of getting out of our present difficulties.

The Meeting then adjourned.

PAPER 263.
No. 425.

THE RATING OF PUBLIC-HOUSES.

BY WALTER C. RYDE (BARRISTER-AT-LAW), ASSOCIATE.

Read at the Ordinary General Meeting of THE SURVEYORS' INSTITUTION, *on Monday, April 15th,* 1901.

SIR JOHN F. L. ROLLESTON, M.P. (Vice-PRESIDENT)
in the Chair.

Before the commencement of the Proceedings, the Chairman read the following gracious reply to the Address, to His Majesty the King, passed by the Members of The Institution at their Meeting on February 11th, 1901.

HOME OFFICE,
WHITEHALL,
29 *March*, 1901.

SIR,

I am commanded by the King to convey to you hereby His Majesty's thanks for the Loyal and Dutiful Address of the President, Council, and Members of The Surveyors' Institution, expressing sympathy on the occasion of the lamented death of Her late Majesty Queen Victoria, and congratulation on His Majesty's Accession to the Throne.

I am, Sir,
Your obedient Servant,
C. T. RITCHIE.

THE PRESIDENT OF
THE SURVEYORS' INSTITUTION.

Mr. Ryde then read his Paper as follows :—

I think it may be assumed, without discussion, that, in valuing a public-house, the existence of the license must be taken into account; that is to say that a public-house must be valued as a public-house and not as a shop or a private dwelling-house. This has been recognised as the law ever since 1815, when the King's Bench decided the case of *R.* v. *Bradford,* 4 M. & S. 317, and after so long a period the law is hardly likely to be altered. The problem to be considered is, how are we to ascertain the rateable value of a public-house ? At this point I think it is not superfluous to remind you that rateable value or net annual value is a term defined by statute; and I even venture to think it would not always be superfluous to remind the judges of that fact. For it seems to me that least notice has been taken of the precise words of the definition in those cases which are generally regarded as—let us say not easily reconciled with other decisions. " Net annual value " then is defined by the Parochial Assessments Act, 1836, as " the " rent at which a hereditament might reasonably be " expected to let from year to year, free of all usual " tenant's rates and taxes, and tithe commutation rent- " charge, if any, and deducting therefrom the probable " average annual cost of the repairs, insurance, and other " expenses, if any, necessary to maintain the hereditament " in a state to command such rent." I may remark, in passing, that the Parochial Assessments Act, 1836, uses the term " rateable value " as equivalent to " net annual " value " in the form of rate set out in the Schedule to the Act; and as the former term is used in the Valuation (Metropolis) Act, 1869, with a slightly improved form of definition, which we may regard as explaining but not altering the earlier definition, I propose to use the term "rateable value" throughout.

The first thing to be noticed about the definition is that it says nothing about the special covenants, so commonly found in the lease of a public-house, whereby the tenant is "tied" or bound to buy malt liquors, or spirits, or both, from the landlord or his nominees. The ordinary yearly tenant, whose rent is to be the measure of rateable value, must be assumed to be free from any such covenant, and every public-house, whether it is tied or free, must be valued for rating purposes, as if it were free. This point was definitely decided in 1865, in *Overseers of Sunderland* v. *Sunderland Union*, 34 L. J. M. C. 121, and has been accepted—so far as I know—practically without any question ever since; consequently I think we may assume the decision to be right without further discussing it.

"Rateable value" then is the rent which may reasonably be expected, subject to certain conditions, which conditions need not for the present trouble us. We are trying to ascertain what rent may reasonably be expected for a licensed public-house: and in dealing with the fact that the house is licensed, I think it is important to remember that rent is affected, not merely by the consideration of bare legal rights, but by practical considerations of existing circumstances and expectations of their continuance. For example, a dwelling-house with a good view commands a better rent than if it had none, although the tenant may have no legal right to look over his neighbour's park or garden. So too, in considering the effect of the existence of the license on the letting value of a public-house, I think it is necessary to consider not merely the abstract law, but the usual practice followed by the licensing justices in administering the law. Whatever may be the legal powers of the justices, we know that in practice they do not grant an unlimited number of licenses in any given area, nor do they, as a rule, allow the tenant of a licensed house to remove with his license to another house not yet licensed, without the consent of the landlord. Landlord and tenant are aware of the practice on both points, and both tend to increase the rent. The tenant, if he knows that he will have a more or less complete monopoly, will give more rent than he would give if every house in the neighbourhood were likely to furnish him with a rival in trade. And the landlord, who knows that the license is pretty securely attached to the premises, can say to the tenant, " Here, and here only can you carry on your " profitable trade, and if you will not give me a larger " rent in consequence, there are other tenants who will."

It is frequently said on behalf of the publican in a rating appeal, that to rate him upon the rent which he will give in order to secure the trade of a public-house is the same thing as rating him for his trade, and that he ought not so to be rated, because no other trade, business, or profession is rated for its trade or business; and that the rate must be upon the value of the house, not upon the value of the trade.

Now there is no doubt that trade or the profits of trade, as such, cannot be rated; and that we are to inquire only what is the rateable value of the house itself. But let us remember the definition. Rateable value is the rent which may reasonably be expected. The question is, will the existence of a trade, or the possibility of carrying on a profitable trade upon the premises, increase the rent which may reasonably be expected? If it will, the rateable value must be increased accordingly. That it does so in the case of a shop is obvious. "The annual rent of a shop in Cheapside is "higher than the annual rent of a shop in a back street, "because of the superior facility for carrying on business "there." And I venture to suggest that what is meant by "the value of the trade" is very frequently really only that part of the rent of a house which is due to the existence of, or the possibility of carrying on, a trade in that house.

Then it is said, "the trade is a personal thing; one "man will fail where another will succeed; therefore "that part of the rent which is paid for the trade ought "to be excluded from consideration in fixing the rent "paid for the house." But the question is, not how many will fail, but how many will succeed? The answer to the latter question determines the rent. The fact that I, or any other Member of this Institution, would fail miserably as lessee of the Lyceum, does not affect the rent of that theatre. On the other hand, if there were only one actor-manager in London whom the public cared to see, I think he would get the theatre pretty cheaply. So with a public-house; if there are ten possible tenants who expect to succeed, the rent will not be reduced because another tenant would be likely to fail. Of course, if a tenant of known experience and skill in the business had just failed in a public-house, that fact would or might reduce the rent; but why? Because the failure is supposed to be due, not to personal, considerations but to the bad position of the house for trade. In other words, failure in trade only affects the rent when it is supposed *not* to be due to personal causes.

What appears to constitute the main difficulty is the fact that in most cases a valuation has to be made of a house where a trade has already been established, so that it may be said that the tenant pays, not only for the value of the house itself, but for the goodwill of the business carried on there. The previous tenant may by his own skill and industry have built up the trade, and, *prima facie* at least, it seems unfair to rate that which is due, not to the position of the house, but to the personal influence of the tenant. But I think the question to be asked is, not whether personal influence has brought the trade to the house, but whether personal influence could take it away. Let us take an illustration from a trade where no license is wanted. In one of the railway arches at the entrance to Waterloo Station is a fishmonger's shop, where apparently a good trade is done. The existence of that trade is due in the first place to the acuteness of the man who saw that a good business might be done there, and then to the business capacity of the man who kept the shop. The position, however, is the one essential thing; the present tenant if he moved into the next street would probably lose all his customers. On the other hand, any tenant carrying on business with reasonable care and skill would probably keep all, or nearly all, the existing trade. Now apply the definition of rateable value. We are to say what rent an ordinary tenant might reasonably be expected to pay. The definition says nothing about goodwill. We must assume that the tenant would get, in return for his rent, the use of the premises with all those advantages and disadvantages which the law attaches to an ordinary yearly tenancy. The tenant would know that he would have a better position than any rival, and would be more or less confident of securing all the business which is now done on the premises. As his confidence increased, so would the rent rise which he might reasonably be expected to pay. The agent for the landlord, in negotiating the terms, could hardly fail to say in effect: "The trade may "be due entirely to your predecessor's business capacity, "but if you take the shop you will secure all the "customers even without paying anything to the out- "going tenant for the goodwill of the business." If this statement were true in fact, I think the rent—that is the rateable value—would be sure to rise.

Now apply a similar test to the letting of a public-house. The incoming tenant would know that the outgoing tenant, with his trade connection, would, in all probability, not be allowed to start a new business in a house not already licensed, and this materially narrows the field of opposition. The question to be answered is this: Assume that a new tenant is coming in without paying anything for the goodwill to the outgoing tenant; assume that the outgoing tenant will do his best to take with him all his present customers to another licensed house; what rent may the new tenant reasonably be expected to give? It is, of course, a mere question of fact whether the outgoing tenant could take away all, or any, of his customers. If he could take away all, the new tenant would, in effect, be starting an entirely new business; if the outgoing tenant could take away none, the new-comer would have the benefit of all the existing trade. Whether the rent would be smaller or larger depends entirely upon the way in which the question of fact above stated must be answered. And this is a question for surveyors, and not for a lawyer, to answer.

I am afraid that Her Majesty's judges—I am thinking of decisions in the last reign—never fully realised the difficulty of valuing tied houses in a town where practically all the public-houses are tied; the late Lord Esher at all events failed entirely to understand the question, as may be seen from his judgment in *Dodds* v. *S. Shields Union* (1895), 2 Q. B. 133. In a very recent case—not dealing with rating law—Mr. Justice Wright was prepared to accept, as well established, the fact that tied tenants usually pay far more than free tenants for their malt and other liquors. If this be true, then it is plain that a tied tenant pays for the house he occupies something more than his so-called rent. If the extra price paid for beer were a fixed sum of 5*s.* or 10*s.* a barrel, it would be quite obvious that the extra price must be regarded as forming part of the true rent. The tied tenant in fact must be regarded as paying something analogous to a dead rent and a royalty. The fact that the payment which answers to the royalty is not a very definite or easily ascertainable sum, no doubt makes the problem, as a matter of proof, more difficult. But because we find a thing difficult to ascertain or to prove it does not follow that we are to disregard it altogether. The so-called rent differs from the true rent, from the full value of the premises, by some uncertain amount which bears no fixed proportion to the so-called rent, and which may be different in every fresh case that we consider. We may be pretty sure that the tied rent is, or is supposed by both landlord and tenant to be, something less than the true rent, but how much less it is, it is extremely difficult to say. Consequently the multiplication of instances of the rents at which tied houses are let does not assist the valuer, unless he knows what the tenant is paying to his landlord in the shape of extra prices for the liquor he buys of him.

Hitherto, as you doubtless have noticed, I have studiously tried to avoid the citation of cases as far as possible. I have thought it better to discuss questions on general principles rather than to compile a summary of conflicting decisions. I must now call attention to a few important cases, but before doing so I want to point out that there are two questions which are entirely distinct from each other, viz. (1) what is the thing to be proved? and (2) what evidence is admissible to prove it? In my humble opinion, great part of the confusion, which must be admitted to exist in the recent decisions, arises from the fact that the judges have endeavoured to answer the second question without fully considering the first. In *Dodds v. S. Shields Union* (1895), 2 Q. B. 133, as I have already pointed out, Lord Esher expressly stated that he could not see what difficulty could arise in valuing tied houses: the difficulty must have been apparent if he had answered the first question above suggested by saying that the thing to be proved was the rent which a free tenant might reasonably be expected to give. The point decided in the case was that, in an appeal relating to a tied house, it is not permissible to cross-examine the occupier as to the amount of his average weekly takings, unless it be shown that the house is of an exceptional character. I venture to submit that it is hopeless to attempt to support this decision. In the first place it seems to involve a vicious circle of reasoning. Unless the case is exceptional certain evidence is not admissible. But if that evidence be admitted the case may turn out to be exceptional, for that evidence may be the only evidence which can prove the case to be exceptional. Thus, suppose there are ten houses, all apparently equally well situated for trade, then, according to the decision in *Dodds' Case*, the evidence of takings is inadmissible in valuing any one of them. But, if the truth were known, one house is unlike all the others; it gets more chance customers than all the rest, or no chance customers at all. This fact would appear at once if the takings were known, but cannot be shown with certainty in any other way. But the rule in *Dodds' Case* apparently excludes the only evidence which would show that the rule did not apply. In other words, one can only tell whether the rule in *Dodds' Case* applies, by doing the very thing which that case forbids.

Next, the case seems to me to assume, as a matter of fact, that an incoming tenant would take no notice of the average weekly takings of his predecessor. This assumption is a matter of fact, not a matter of law. Is it true? As far as my experience goes, I have never heard a witness say so; I have always understood that the first thing an incoming tenant tries to ascertain is the trade which has already been done in the house. But whether this is so, is a pure question of fact on which many Members of this Institution are more likely to be right than I am.

The case of *Dodds* v. *South Shields Union* has, however, been very much discredited by the subsequent decisions of the Court of Appeal and the House of Lords in *Cartwright* v. *Sculcoates Union*, see (1899), 1 Q. B. 667; (1900), A. C. 150. Lord Halsbury (sitting for the time being in the Court of Appeal) said, "All "that could reasonably affect the mind of the intending "tenant ought to be considered;" and Lord Justice Collins said that the business which had already been done on the premises was the most important factor in arriving at a conclusion as to what business could be done on the premises by an ordinary tenant; and added, "of course it has to be qualified by any special circum-"stances." This sentence seems to me to correct the serious mistake made in *Dodds' Case,* in which the Court of Appeal seem to have confused inconclusive with inadmissible evidence. Of course one man's trade may be no evidence of the real letting value of the premises; it may be shown that he is an exceptionally bad or good tenant. If that is done, the profits which he made are clearly not the measure of letting value; but until that is done, surely the profits which any tenant has in fact made in the past are *prima facie* evidence that any ordinary tenant can do the same. The evidence may come to nothing in the end, but surely it is admissible.

The decision in *Dodds' Case* would have been almost entirely discredited by the House of Lords in *Cartwright* v. *Sculcoates Union,* but for one judgment. Nearly all the Lords in giving judgment treated the earlier case as doing no more than lay down a convenient rule of practice (that it would be inquisitorial to inquire into a man's profits), but threw great doubt on the decision, if it meant to go further. Lord Morris, however, reopened (in my humble opinion) the flood gates of confusion; for, after expressing a strong disapproval of the rule laid down in *Dodds' Case,* he added: "There "is no force put on a publican to produce his books; if "he chooses not to bring forward his books, he need "not do so." Now this is precisely what was decided in *Dodds' Case,* and I frankly confess that, if Lord Morris' judgment is to be taken as representing the opinion of the House of Lords, I cannot tell you whether *Dodds' Case* is still to be taken as good law or not.

There is another point specially dealt with by the Queen's Bench Division, in *Bradford-on-Avon Union* v. *White* [1898], 2 Q. B. 630, viz.: how far the competition of brewers to secure public-houses may be taken into account in estimating rateable value. The decision was that the competition of brewers ought not to be wholly excluded from consideration, but that the special prices which they may give "owing to personal considerations" should be excluded, except in so far as the possibility of such special prices being obtained raises the market value generally. I do not understand this decision. Of course one knows what is meant by a fancy price which one person, and only one, will give, and which he would not get back again if he tried to get rid of the house. But the "special prices" given by brewers are prices which a whole class of competitors will give, and prices which many members of the class would give for similar premises, and prices which the purchaser would get back if he were to sell his property. This, however, seems to me merely a roundabout way of describing what is meant by the "market value" of public-houses. I cannot understand what is meant by saying that these "special prices" must be excluded, except in so far as they raise the market value generally. They are the market value; at least, that is my opinion.

To answer the question how far they affect rateable value, let us go back to the definition. Rateable value is the rent which may reasonably be expected. Let me assume that a Fellow of this Institution has to advise the owner of a public-house (who is not a brewer) how to deal with it, either by letting or by sale; let me assume that no change of circumstances is expected to arise, so that the present letting value is a fair measure of the full value of the freehold. A tenant offers a rent of £100 a year, of course as a free tenant, on a yearly tenancy. A brewer offers to buy the house for £4,000, his object being to secure the trade by letting the house to a tied tenant. Will the Fellow of The Surveyors' Institution advise his client to sell, and to say to the would-be tenant that £100 a year is not enough? If he will, then it seems to me that the competition which leads brewers to offer a capital sum greater in proportion than the rent which a yearly tenant would give if that competition were got rid of, tends inevitably to increase the rent which such a tenant *must* give to secure the house, and consequently increases the rateable value.

One other point I ought to refer to. Those of us who practise in London are familiar with the so-called "County Council Scale" for valuing public-houses occupied by a lessee who has paid a premium for his lease. According to this scale one half of the premium is attributed to "goodwill" and ignored; a percentage (varying according to the length of the unexpired term) is applied to the other half and added to the rent. It appears to me that to take one-half of the premium in every case as attributable to a personal goodwill, which is to be absolutely ignored in valuing the premises, cannot possibly be right. Apart from the question whether one-half is too much or too little, to apply a rule of cast-iron rigidity to every case, regardless of special circumstances, must surely be wrong. Let me give an instance from my own experience where it clearly was wrong. A public-house forming one of a row of houses in an old street was suddenly converted into a corner house by the demolition of the shop next door, and the laying out of a new street across the site of the shop at right angles to the old street. A new lease of the public-house was granted at a largely increased premium. According to the scale, one-half of this increased premium would be left out of consideration altogether as due to personal goodwill, although the whole of the increase was obviously due to the altered position of the premises.

But apart from such a case as I have referred to, is it right in an ordinary case to attribute one-half of the premium to personal goodwill and exclude it from consideration in making a valuation for rating purposes? First let me point out—though it is indeed obvious—that the rule, which was no doubt intended to promote uniformity in rating, may produce the most glaring inequalities. Suppose there are two houses exactly alike: one is just let on lease at a rent of £200 a year, on payment of a premium of £10,000; the other let on lease (for the same term) at a rent of £500 a year, on payment of a premium of £5,000. According to the scale, these two houses, which are exactly alike, must, in most cases at least, be rated differently. In the former case we add a percentage on £5,000 to a rent of £200; in the latter we add the same percentage on £2,500 to a rent of £500, and the result is different, unless we take exactly 11 per cent., which is a somewhat unusual percentage. Or, to put the contrast in another way, in the one case we put the value of the personal goodwill at £5,000, in the other we put it at £2,500. If a fixed rule of thumb is to be applied, surely the proper course in both cases is either to capitalize the rent and add it to the premium, or to translate the premium into annual value and add it to the rent, and in either case to apply the rule of thumb only to the total result.

But the more important question is—what proportion of the total amount which the tenant pays to acquire the house and the trade, is attributable to goodwill? To answer this we must understand what is meant by "goodwill." Do we mean a personal goodwill which the tenant can take away elsewhere, or do we mean the trade which is—and which must remain—attached to the premises? It is perhaps hardly necessary to point out that there may undoubtedly be a purely personal goodwill belonging to the occupier of a public-house. Suppose there are two public-houses immediately opposite a village cricket ground in Surrey, and that one of them is occupied by a late member of the County Eleven. I suppose there is not much doubt—all other things being equal—which house would secure most business on match days. The better prospect of trade would, however, be purely personal to the member of the County Eleven, and he would not give a larger rent, in consequence, when he went in. For if the landlord of the one house sought to extort from him a higher rent on the ground of his chance of making large profits, the intending tenant would probably say, "I will go to the "landlord of the other public-house, which has just as "good a position, and he will be only too glad to take "me as a tenant in order to have his rent so well "secured." Here then we have an instance of a purely personal goodwill which does not increase the rent and which does not increase rateable value. Again, when such a tenant as we have supposed goes out of possession, the trade which *he* was able to secure will not determine the rent which his successor can and will pay. The latter will say: "the goodwill was purely personal "to the outgoing tenant; now that he is gone the two "rival public-houses will once more be on equal terms "and will divide the business equally." Consequently, the incoming tenant will not give a high rent, calculated on the assumption that the existing trade will continue unaltered, though possibly he may hope to keep some of the trade, and may give a slightly increased rent in consequence.

That there is such a thing as a purely personal goodwill connected with a public-house must then be admitted, and it seems to me its existence does not increase rent, and therefore does not increase rateable value. But the goodwill in respect of which one-half of the premium is supposed to be paid according to the "County Council scale" is, *ex hypothesi*, a goodwill for which the incoming tenant is assumed to have paid an increased rent in the form of an increased premium for the lease. It is, at any rate, not a personal goodwill which will expire when the outgoing tenant goes away. Can it be said to be a goodwill which the outgoing tenant could take away with him to another public-house? This is a question of fact which must be answered not by a lawyer but by those who understand the trade done at a public-house. If I may be allowed to give my answer, for what it is worth, to this question of fact, I should say that great part (though possibly not the whole) of what is called the "goodwill" of an ordinary public-house is merely the probability that the old customers will resort to the old place irrespective of any change of tenancy. If this is true in fact, then the greater part, though possibly not the whole, of the "goodwill" is to be taken into account in estimating rateable value just as much as the existence of the license.

The conclusion of the whole matter appears to me to be as follows: We must assume that a tenant is about to take the public-house as a free tenant subject to no tie; we must assume that he will have the benefit of all the trade that naturally attaches itself to the house; that he has not paid anything for the personal goodwill belonging to the outgoing tenant; that the outgoing tenant is at liberty, if he can, to set up business in opposition to the new tenant, and to take away all the old customers, but that the new tenant is at liberty (if he can) to secure all the old customers without paying a farthing beyond his rent for that opportunity; and we must of course assume that the new tenant has to pay no premium for his lease, and no interest on money borrowed, either from his brewer or anybody else. We must consider what rent such a tenant would be willing to pay, and on the other hand we must consider what rent a landlord would be willing to receive, if (being a brewer) he had the option of letting the house to a tied tenant, or if (not being a brewer) he had the option of selling the house to a brewer who would proceed to let it to a tied tenant.

The limits of your patience rather than of the subject compel me to leave off. "The great art of letter-"writing," said a high authority, "is to make you wish "there was more of it." I shall be more than satisfied if my Paper will stand this test at your hands.

Mr. FREDK. MARSHALL, K.C. (Associate), said he had very great pleasure in proposing a vote of thanks to Mr. Ryde for his able and extremely interesting Paper. With most of the conclusions at which the author had arrived he thought there would be a very general agreement.

The Paper dealt, however, with some few other points which had long been of considerable interest to all who had taken part in the discussion of this question, and on which, he thought, there might possibly be some difference of opinion.

For himself, he was rather disposed to sympathise with what Mr. Ryde had called the publican's view with reference to the question whether the value of any part of the trade going with the house should be counted as equivalent to rent for rating purposes.

In his Paper, Mr. Ryde stated his view in these words: "The question is, will the existence of a trade, " or the possibility of carrying on a profitable trade upon " the premises, increase the rent which may reasonably " be expected? If it will, the rateable value must be " increased accordingly. That it does so in the case of a " shop is obvious. The annual rent of a shop in " Cheapside is higher than the annual rent of a shop in a " back street, because of the superior facility for carrying on business there. And I venture to suggest that " what is meant by the value of the trade is very " frequently really only that part of the rent of a house " which is due to the existence of, or the possibility of " carrying on, a trade in that house."

Then, later on, Mr. Ryde said, "the tenant would " know that he would have a better position than any " rival, and would be more or less confident of securing all " the business which is now done on the premises." And again, later on, in several places he suggested that when a business had been created by a tenant who had occupied the premises, and another tenant was coming into that business, the probability that it would be continued to the successor was to be taken as part of the consideration as to the rent to be paid and the rateable value to be assessed.

He could not quite follow Mr. Ryde in taking that view, or feel warranted in going quite so far as he did. He was bound to say that he could not see, in that respect, any essential difference between a licensed property and a non-licensed property, whether it were a tailor's or a shoemaker's, or any other business of a similar kind. Take the case of a man, prosperous and successful in his business, who, during his occupancy of the shop for a number of years, created a trade and then left it. Ought his successor, who happened to have a higher rent put on the premises, therefore to be assessed higher than if he had taken a shop with which no such trade was connected? In the case, for instance, of a row of shops newly built and ready for tenants. In one case a person going in as a tenant created a good business, but in another case a tenant perhaps turned out not to be successful in his affairs. Was it to be said that as to the former the landlord was to get a higher rent, not because of the possibility of carrying on a trade on account of the convenience of the premises themselves, but because the trade was there and that therefore the customers would continue to come and so benefit the pocket of the successor?

In this connection he might quote from the judgment of Blackburn J. in the *Mersey Docks* v. *Liverpool* Case, an extract from which Mr. Ryde had already given. The learned Judge said: "If "the hereditaments are such as to afford peculiar "facilities for carrying on any kind of business, "*that facility* does, beyond all question, enhance the "value of the occupation; but though the profits which "may be reasonably expected to arise from such a "business no doubt form an element in estimating the "enhanced value of the occupation of the premises, the "*actual profits* made do not form any element, except "in so far as they afford evidence of what might be "reasonably expected to be made from *the occupation* "*of premises affording facility* for carrying on such a "business. For instance, to explain our meaning, there "can be no doubt that the annual rent of a shop in "Cheapside is higher than the annual rent of a similar "shop in a back street; and that the reason why the "tenants give a higher rent is because of the *superior*

" *facility* for carrying on business there. But the rent " and the rateable value of the shop are quite independent of the amount of the shopkeepers' actual gain."

He could not help thinking that this distinction was, sometimes, rather lost sight of, and that the existence of a business in an owner's hands was considered together with, whereas it ought to be distinguished from, the possibility of carrying on the trade of a house.

He might of course be wrong, but it struck him that the existence of a business and the probability of the continuance of custom ought not to form an element in the rateable value; whereas the possibility of carrying on a good trade with all the facilities and advantages which the premises offered might properly be considered in measuring the amount of the rent, and therefore the rateable value at which the premises ought to be assessed. It was a difficult distinction to draw in some cases, but in the case of non-licensed premises it was drawn to a considerable extent. Under what circumstances had one ever heard of the profits of non-licensed premises (he did not mean where there was a monopoly by statute) being inquired into? It was said that the reason was that there were so many similar shops in all towns that there was no necessity for such an inquiry. He thought that it went rather beyond that, and, in the last case in the House of Lords to which Mr. Ryde referred, namely *Cartwright* v. *Sculcoates Union*, Lord Davey repudiated the idea of making any rule from the existence of exceptional circumstances, and said he did not consider it ought to prevail, or to have any effect in regard to the rating principle. If that were so—if one never inquired into the books of the trader in an ordinary business—ought one, in regard to licensed premises, to adopt that rule?

It was to be noticed in regard to both *Dodds' Case* and *Cartwright's Case*, that, in the judgments, none of the judges, either he thought in the Court of Appeal or in the House of Lords, said that one was at liberty to look into the actual profits made. They might produce evidence to show the volume of trade carried on, but he did not understand either judgment to say that one might use it to show the profits made. He was aware that in many cases heard during the last few months this rule had been overlooked, and the actual books had been produced and the actual profits measured.

Unfortunately, these judgments were guides which were extremely difficult to follow. In the first place, in the House of Lords, their lordships did not entirely agree in their views. Even if they had agreed, he feared their judgments were not so clearly expressed as one might desire in so important a matter. It seemed to be alleged, somewhat oddly, that if a publican chose to produce his books he might do so, but that the Assessment Committee must never take steps to find out the contents of the books unless the publican chose to produce them. This might be well in order to save anything like inquisitorial proceedings, but it seemed hard on the respondents. He thought he might take it as the general result of the judgments, that if one could get at the volume of trade without being inquisitorial one was at liberty to do so, but, beyond that, the tenant seemed to be (and perhaps it was right it should be so) jealously guarded, lest the nature and extent of his business should be known to the public at large.

Mr. WILLIAM EVE (Fellow) begged to second a very hearty vote of thanks to Mr. Ryde for his Paper, which he thought a very useful one indeed, as a summary of the position in which matters stood at the present time.

First, he would like to say a word or two with regard to Mr. Marshall's remarks. The great difference, as he understood the question, between the cases of licensed houses and the *Mersey Docks Case* was that one dealt with licensed premises and the other did not. In the one the occupier was protected from any intrusion on his rights during the currency of the rate, and in the other he was not, and there seemed to him to be a great distinction between those two cases.

Then, as to profits, he did not think that this question should be considered at all. He happened to have with him an extract from the decision of the House of Lords in *Cartwright* v. *Sculcoates Union.* It seemed to him that Lord Davey, in his judgment, summed up the matter very clearly in these words: "My Lords, I " entirely agree in a passage in the Lord Chancellor's " judgment which I will take the liberty of quoting and " adopting as an expression of my own mind. His " Lordship says: 'It would be to my mind one of the " 'most extraordinary things in the world if you could " 'give expert evidence that such and such a house " 'would be likely to command such and such a business, and yet not be able to verify that *à priori* " 'opinion by proof of the fact that it did command " 'such a business.' Again, Lord Justice Smith, in the " 'Appeal Court, said: 'You may call it goodwill or you " 'may call it anything else you like, but it is legitimate " 'evidence to show not only that it is a house capable " 'of carrying on a good trade according to the matters " 'which have to be taken into consideration by the " 'hypothetical tenant; and he fortifies that evidence " 'by saying it is carrying on a good trade, because I see

" 'such and such things going on every day to my own " 'knowledge.' My Lords, that appears to me to sum up " the whole of this case."

There were many other points in the judgment which seemed to him to put aside *Dodds' Case*, and to carry the matter so entirely beyond it that one need attach very little importance to that decision.

In justification of that somewhat bold statement he might perhaps shelter himself behind what Lord Justice Davey, in an earlier portion of his judgment, said: "All " I can say is, I should hesitate very long before I " accepted *Dodds' Case* as correctly laying down the " law." That he thought was a justification for saying that the decision in *Dodds' Case* might be regarded as practically dead.

Then Mr. Ryde referred to the "London County " Council Scheme," which he (Mr. Eve) never liked to hear so described. It did not really emanate from the London County Council, but was a scheme formulated after mature consideration by certain delegates from the rating authorities in London, and the London County Council had only half a dozen votes out of the hundred. He happened to be one of the delegates at that meeting, at which he tried very hard to get the portion of the premium attributed to goodwill altered from one-half to two-thirds, but he was outvoted in that respect.

He quite agreed with Mr. Ryde that the principle of taking arbitrarily one half as this proportion was absolutely wrong. Where the rent varied much in different classes of houses (as a matter of fact in London it did not to any great extent—there were hundreds and hundreds of houses where the rent might be taken as between £100 and £200, and it was quite exceptional to have a house with a rent of £500 in London) his own practice was to convert it into premium, and then deal with it. That, to his mind, was the only legitimate way of dealing with it, and he did not think that many rating authorities arbitrarily adopted the half premium without regard to the fact of the standing rent. There was another point which was also to be regarded: a publican taking a house, say at £100 a year and paying £5,000 premium, might lay out £2,000 on it in renovating it. £1,500 of this might well be considered as improving the hereditament, and the other £500 as appertaining to things that would not come under the head of rating. The £1,500 was not halved. It was money laid out by the tenant in improving the premises after acquiring the house, and could not be regarded as goodwill.

The price paid by brewers was alluded to by Mr. Ryde as being difficult to understand, especially with reference to Mr. Justice Channell's observations; but as he (Mr. Eve) understood that decision it went to this: that if there were so many brewers competing for the acquisition of these houses, and they really, by that competition, permanently so raised the value of licensed property that outsiders, other than brewers, would give an additional price because of the value being so raised, then, to that extent, one must take it into consideration. That had always been his view of Mr. Justice Channell's language in dealing with that case.

It was by no means so easy as it might appear at first sight to be to determine the difference in the value of similar premises capable, apparently, of doing a similar trade. To quote an instance which came under his observation within the last six weeks: in a country town there were two houses—one, say house A, was in a better position than house B. House A was not doing two barrels a week, whereas house B in the same street, though not in so good a position, was doing seven or eight barrels. He was struck with this apparent difference, but when he looked into the circumstances he got at the explanation of the matter very easily. The house doing the seven or eight barrels was supplying good beer, popular in the locality, while that of the two barrel house was not popular. Therefore, in such a case, one could not say that house A was worth so much because it did two barrels, because we were told, and rightly told, in valuing, one must disregard the tie; nor could one say the house B was worth so much more, because directly house A was freed from the tie the value of B would go down. This was really a case in in which a surveyor's judgment and experience was needed.

He should like to make one further observation in answer to Mr. Marshall, who asked why, if a successful trade had been conducted in a certain shop, should a new tenant pay more rent in consequence of that trade being established there? The answer was, that directly the house came to be let people would give a higher rent in respect of it, and if a higher rent were given, why not impose a higher rate. All that had to be ascertained was the reasonable rent which would be given. It was well known that, in the case of all shops, directly a trade was established in a particular locality, the shops went up in value. How much more so when the trade established was of a character which could not be interfered with during the currency of the tenancy and license! In his view, any increased rent that was payable in consequence of such circumstances should be taken into consideration. He believed that in realising a bankrupt's property one could only sell the goodwill of the premises, and could not cast on him any obligation not to set up elsewhere when he was freed from his liabilities. It was only in cases such as Mr. Ryde had alluded to, where the tenant of licensed premises was a betting or sporting man, or a cyclist, or anything of that sort, that the goodwill of the trade was to any great extent of a personal character.

He would conclude with a question which he had put somewhat frequently before, but which he had never found anyone able to answer: "If there is any "large element of personal goodwill, how is it that one "finds when a tenant leaves a public-house that the "successor immediately advertises it as 'under entirely "'new management'?" That was a thing he could not understand. When a doctor sold his practice his successor retained the old plate, and only put up his own name in moderate letters. In the latter case personal goodwill was a very important matter, but it seemed as if a publican had practically none at all.

Mr. J. R. EVE (Fellow) said that although he and his brother, the last speaker, lived far apart, they followed much the same practice, and could equally appreciate the value of the very able Paper which Mr. Ryde had prepared and read. He had long felt much indebted to Mr. Ryde for many hints on rating matters, and especially in regard to the assessment of public-houses. The learned arbitrator in the *Sculcoates Case* put the case for the superior court so plainly that it was impossible to misunderstand the decision of the judges and counsel. With all their ingenuity they could not get away from that case. What many surveyors were exercised about was whether, in rating a public-house, this was to be considered as an exceptional or as not an exceptional case. The arbitrator, in his statement for the judges, said distinctly that this public-house in Sculcoates Union was not an exceptional case. Notwithstanding this, the judges in the House of Lords decided that in assessing it, trade which the house did was to be taken into consideration. One of the judges went even further than that. He said that anyone taking a public-house would naturally make the inquiry, "What trade are you doing here?" And he went on to say that he knew of no way by which it was possible to arrive at the truth more correctly than by ascertaining the trade that was actually done at the place. That had been of immense advantage to surveyors in assessing public-houses; but there was one great difficulty referred to by the last speaker, namely, that one must ascertain, first of all, what was the personal trade, and that personal trade was often almost impossible to arrive at. It was not made so easy for country surveyors, as was apparently the case in the London district, with which he (Mr. Eve) was not concerned; but the case stated by the last speaker was extremely apposite. Two houses were situated in the same street, and, looking at them together, one would say: "What is the probability of their "differing? Two houses in exactly similar positions, "both corner houses, or both on the same side of the "street—apparently in every respect the same—and yet "we find the trade is widely different." There must be some element to be considered in estimating the takings of those two houses. Either the personality of the tenant or the quality of the article he supplied must account for the difference. That illustrated one of the great difficulties that arose in these cases.

He thought that Mr. Marshall in speaking of "profits" used a word strange to most surveyors concerned in the matter of rating public-houses. There was no mention of "profits" before the Assessment Committees or Quarter Sessions. What was discussed was the "possibilities" or "capabilities" of the house to be assessed. The word "profits" was carefully eschewed—at least it was so in his own practice.

As to the brewer's rent, there must be something in it in excess of anything a free publican would possibly give, but he believed the rent a brewer would give for a public-house was different from anything at which the surveyor had a right to assess a tenant.

Mr. PHILIP E. PILDITCH (Fellow) said it seemed to him that the question which Mr. Ryde had so ably treated really resolved itself, in many cases, into this: Seeing that it was admitted that the profits of a public-house must not be considered in arriving at the rateable value, how much of the premium, which, in the majority of cases in London, was paid when a tenant went into a public-house, was to be treated as equivalent to rent. He agreed with Mr. Ryde that a considerable web of unnecessary difficulties had been woven round this particular question, for it seemed to him that the rating of public-houses was, really, on practically the same lines as the rating of any other hereditament, at least in London, in which mainly he had experience in this matter. A tenant, on taking a shop in Piccadilly, was guided by the business done there, and on that basis he paid the rent, which was very often a large proportion of the profits he considered he would be able to make out of the premises, and if he paid a premium to the landlord at the beginning of the time when he was rated, that premium was taken into account when the rate was put upon him. If he was a second lessee and had bought the property during the continuance of the lease, he had to put in the premium which he had given to the outgoing tenant, and the amount of this premium, which was, in most cases, larger than that originally paid, was taken into consideration by the Rating Committee in arriving at the rateable value.

Now, a tenant in that case was rated upon the whole of his rent, whether it was directly paid in the shape of rent or whether partly paid in the shape of premium, and, strictly speaking, there seemed to him to be nothing to justify any difference between the rating of a public-house and that of an ordinary business tenement, for the premium which was paid by a tenant was founded in each case on the original rent he had to pay, the length of his lease, and the probable business he would be able to do on the premises.

There was no doubt, however, that a certain custom did govern Assessment Committees and had to a large extent been confirmed by various decisions of the judges, which justified treating part, at any rate, of the premium as personal goodwill, attributable to the tenant only, though he agreed with Mr. Ryde that in the majority of cases there was very little goodwill that could be attributed to anything but the house itself and its situation.

He also agreed with Mr. Ryde and Mr. J. R. Eve, that the attempt of the London County Council Conference to arrive at some means whereby a measure of uniformity might be observed in regard to the proportion of premium to be considered in the rating of a public-house, by fixing it at one-half, did not proceed on proper lines. As he had just said, he thought the amount of goodwill personally attributable to any lessee, whether he occupied an ordinary shop or a public-house, was as a general rule very small, and the amount to be added to the rent would not be represented, in his opinion, by the one-half of the premium allowed by the London County Council Conference.

The only thing which he thought could be said in favour of that system was that, possibly, there was less hardship arising out of the scheme laid down by the Council Conference than from the diversity of practice which had undoubtedly occurred in many of the Assessment Committees of London.

But, beyond that, he agreed with Mr. Eve that one-half was altogether too small a proportion to be allowed for the sum on which the rating was to be assessed, and he thought if he had succeeded in getting the two-thirds of which he spoke, agreed to at the Conference, it would have been much nearer the mark.

There was one rather important point in connection with the subject on which Mr. Ryde no doubt intentionally omitted to touch, and that was the very interesting question which had been settled in the recent case of *Ellis* v. *The Camberwell Vestry*, with which all who had to do with rating matters were no doubt well acquainted. It affected the question of a rise in value of licensed premises during the quinquennial period, and as to whether the premium paid under such circumstances could be taken into account as evidence of such rise of rateable value. That case, on which many other cases had since been settled, went, he believed, through some five courts. The Assessment Committee in the first instance took into account the premium paid since the quinquennial period, and they also took evidence that public-houses generally in London had risen in value, even where there had been no alteration in the structural value of the premises.

The Quarter Sessions and the Divisional Court upheld the decision of the Assessment Committee, and took a proportion of the premium into account in arriving at the rateable value; but the judgment of the Divisional Court was reversed by the Court of Appeal, whose decision was finally affirmed by the House of Lords. It was held that no general rise in value came within the wording of Section 47, of the Act of 1869, which stated that if in the course of any year, the value of any hereditament was increased by additions thereto, or the erection thereon of any building, or if from any cause it was reduced or increased in value, then a new valuation might be made. One of the judges in the House of Lords said that the words "any cause" in the section must be taken as meaning similar causes to those actually specified in the section, namely, the erection of new buildings, in the sense that the cause must affect the value of the particular property and not be a cause affecting the value of the whole general class of such property. It was further laid down that a definite cause must be assigned for the alteration, and that it was not enough to prove that the hereditament was greater in value than at the last quinquennial assessment.

No doubt the object was to provide that there should be no valuing during the period of five years during which the quinquennial assessment stood. But what was to happen if at the time of the quinquennial assessment a large premium had been paid? He knew a case where £40,000 was paid, and where, two years subsequent to the quinquennial period, the property again changed hands, and at that time only £25,000 had been paid. That of course presented a difficulty which was not met by the judgment of the House of Lords.

He could heartily agree with Mr. Marshall and Mr. Eve in thanking Mr. Ryde for his very admirable Paper, and he must say that when listening to it (and no doubt the same thought occurred to others) he could not help thinking of some of those exhibitions of robust common sense and vigorous intellect which they used to have from Mr. Ryde's father in the earlier days of The Institution.

Mr. J. F. **Field** (Fellow) said he had hoped to gather from the Paper, and from the discussion, some guidance as to his practice in future. During the present sittings of the Assessment Sessions he believed that most of his professional brethren had found that confusion had become only worse confounded, and that all the decisions of the courts had tended to make it less and less clear how public-houses should be valued. The decisions from which they had endeavoured to gain enlightenment and knowledge had been so conflicting that they afforded very little to go upon, and only seemed to leave the impression that there must be something wrong in the manner in which profits were usually taken into consideration.

It had been suggested by expert witnesses for the appellants that from the profits as ascertained rent and all outgoings were to be deducted. Then a certain amount was allocated to the publican for himself and his wife and family to live upon, and what was left should be assumed to be the landlord's rent. That was a view which had been taken, but to his mind it was extraordinary that such evidence should be admitted. He had hoped that when he came to sit at the feet of Mr. Ryde, who had the law of rating at his fingers' ends, he might be told what was right and what was wrong, but he had learned that one of the cases which had in the past been relied on, namely, *Dodds* v. *The South Shields Union*, was absolutely fallacious in the opinion of the judges in the *Sculcoates Union Case.*

It seemed, by the *Sculcoates Case*, that one had no right to ascertain from the person to be rated what his trade was. As he understood the decision, those acquainted with the district in which the public-house was situated should use their judgment and give their opinion as to what the rating should be, without any reference to the takings of the house. He agreed that in some instances it was almost impossible for a valuer, not knowing intimately the district in which he was assessing a house, to form an opinion on its rating without knowing the takings; but it was possible for a valuer who knew his district to ascertain (by rule of thumb, some might say, although he would prefer to say "by experience") what should be the rent and premium, although he did not know the takings of the house.

For instance, in the case of a property about to be sold by auction for the freeholder—not the brewer—the auctioneer could advise his client what reserve he should put on that house. It might be asked how he could do that if he did not know the takings. If he were a competent valuer, he would be able to form an opinion of the capital value of the house from local data although he might not actually know the takings, and if he could do that he could as easily rate the premises.

The CHAIRMAN said he could not, from practical experience, add much to the discussion of a subject of such extreme difficulty, but he could join at least in expressing his personal hearty thanks to Mr. Ryde for his excellent Paper.

He had not himself had much practice in the rating of public-houses, although he had from time to time a good deal to do with the purchase of them under compulsory powers for railways and corporations, and in valuing such houses he must say that, according to his experience, it was generally necessary to take into consideration, not so much the character of the buildings or the position of the houses, as the amount of trade done, and when claims for compensation for these houses were brought into court the trade had to be proved before the value could be fairly ascertained. It seemed to him that if, on the purchase of property, these matters had to be considered, it was fair that they should also be taken into account in settling the rateable value of the property. Whether that was the right system or not, it was the one generally adopted. He did not think, from his own experience, that under that system the companies paid too much for the many houses they purchased, for after they had cut them about, or gone through them, or transformed them in various ways, preserving the license where possible, they nearly always made of the remainder more than they gave for the houses as a whole before they were touched.

In one extreme case which he remembered, a brewer bought two cottages worth 6s. a week, and having spent £150 in making a cellar, got an off-license, and carried on for years a trade on those premises, which brought him in a profit of over £2,000 a year. Now it seemed to him that a property of that kind, which had such additional value lent to it by the fact of its being licensed, should contribute something more to the relief of the pockets of the ratepayers than was represented by the rents of two houses of 6s. a week.

He had learned for the first time that evening that it was usual for a new tenant of a public-house to boast that the house was "under entirely new management." He could only account for it by the fact that the outgoing tenants of public-houses were sometimes like those tenants of farms, with whom land agents were familiar, who "farmed for going," and that during the last few months of the tenancy they either gave short measure or supplied an inferior article.

The subject of the Paper was one of great difficulty, and speaking as he did on the spur of the moment, he could not pretend to add anything of value to the discussion, but he joined in offering Mr. Ryde most cordial thanks for his contribution to the elucidation of this most involved subject.

Mr. RYDE, in reply, said he desired first to thank the Members present for the friendly way in which they had received his Paper, and especially for the cordial manner in which the vote of thanks had been proposed and passed.

He would like to say first, in order to relieve the minds of what he would venture to call the lay Members of the Institution, that there was no real difference as to any point of law between his learned friend Mr. Marshall and himself. He thought the difference of opinion between them was as to a question of fact. Mr. Marshall said: "Why, in rating a house, are we to take "into account not merely the possibility of carrying on "a trade, but the existence of a trade already carried "on?" He thought the true answer was, that if one took into account the existence of a trade as a matter of fact in fixing the rent, then it followed (and he thought Mr. Marshall would agree with him) that it was also to be taken into account as a matter of law in fixing the rateable value. Now he would ask the surveyors present whether, as a matter of fact, it did affect the rent if it was found that a trade had been carried on for some years in a particular shop—say a greengrocer's or a linendraper's. Take the case of a new row of houses built as shops. When they were first opened as shops it was uncertain whether a trade was coming to that particular centre or suburb. Those houses would then command nothing like the rent which they would be worth five years later, when experience had shown that they were just in the right place and that a trade had been established there. If trade did come there, he thought all surveyors would agree that the rent would rise in proportion. If it rose in proportion, how could they eliminate that rent, which was warranted by actual experience, from the consideration of what was the rateable value of the premises? He thought really the answer to Mr. Marshall's question was that the matter was one of fact and not of law.

He would say one word in answer to his friend Mr. William Eve, who reproved him, certainly in a mild manner, for alluding to the "London County Council's "scale." He thought it would be found that he used the words "the *so-called* County Council scale." He was well aware that it was not the London County Council's scheme, but that the Council was one of the many authorities whose combined wisdom produced that result of various diverging forces.

One or two remarks had been made as to questions of fact on the decision in *Bradford-on-Avon Union* v. *White*. Mr. Field had said that the value of a house had to be ascertained in actual practice by an auctioneer in advising his client on the sale of a public-house. He agreed with Mr. Field that it was possible to estimate more or less accurately the selling value of a public-house and the reserve price to be put on it; but, as he understood in *Bradford-on-Avon Union* v. *White*, that reserve price which he imagined Mr. Field would fix, if he were advising a client merely in reference to what he could get from the brewer, was not the controlling element in fixing the rateable value.

He understood Mr. Justice Channell to say that the price a brewer would give—the capital value—to buy a freehold was not taken into account except in so far as it raised the market value. But it was the market value, which, he understood Mr. Field to say, the auctioneer was to fix to the best of his ability. This, Mr. Field said, could be done more or less accurately. But in the decision in *Bradford-on-Avon Union* v. *White*, Mr. Justice Channell said that although one could do it, the figure arrived at in that way was never to be a criterion of rateable value. If the judges in the late Queen's Bench Division said that a certain price was not to be taken into account in fixing the rateable value, except in so far as it raised the price which outsiders would give, he did not see how the question was to be answered at all if *Bradford-on-Avon Union* v. *White* was to stand.

One word as to the decision in *Ellis* v. *the Camberwell Vestry*. He had thought of referring to that case, but it seemed to him that it was one which interested only the London members of the profession, and that it was not so much a question of public-house rating law as of rating law generally; namely: What alterations in value, of increase or otherwise, were to be taken into account as warranting the making of a supplemental list?

Now that the matter had been mentioned, he might say he thought it a very difficult case, and so far from assisting surveyors he was bound to say that his experience was that it afforded no help whatever. But he might mention that it was a case which arose under Section 46 and not Section 47 of the Valuation (Metropolis) Act. It was merely a question whether a certain public-house should be put in a Supplemental List or not.

Might he be permitted to remind Members that in drawing conclusions from judgments on cases in the Court of Appeal or in the House of Lords, they must take the whole number of the judges as unanimous, if they said they were unanimous, and must take all the judgments together, as expressing the view of the Court. The House of Lords said that structural alterations were not necessary to warrant an entry in a Supplemental List, but they declined to say what alterations would be sufficient. There must be some alteration in the circumstances. When he tried to find from the judgments what was meant by "alteration of circumstances," he was bound to confess he was absolutely at sea, and he thought the judges had carefully refrained from doing what surveyors were trying to do every day, and had given them no assistance whatever on that point. But he purposely left that case out of consideration, because he did not think it would assist them in valuing public-houses, and, *ex hypothesi*, it did not assist anyone practising outside London.

He would refer once more to *Cartwright* v. *Sculcoates Union*. He should agree in that being a very useful case if one might take only the judgment of Lord Davey, as Mr. Eve (for instance) had done; but, unfortunately, one must take that with the judgment of Lord Morris, who said he concurred with Lord Davey, but it was difficult to find any means of making Lord Morris concur with Lord Davey in such a way as to either support or annihilate *Dodds' Case*. Therefore he thought he was right in saying, if one took Lord Morris as fairly representing the opinion of the judges, it was difficult to say whether *Dodds' Case* was annihilated or not. It might be much shaken, but that it was absolutely annihilated he thought could not be said if Lord Morris's judgment were taken as an integral part of the decision of the House of Lords.

The vote of thanks having been put, and carried unanimously, the Meeting then adjourned.

PAPER 264.
No. 426.

THE OWNERSHIP OF THE HIGHWAY.

BY CLAVELL SALTER (BARRISTER-AT-LAW).

Read at the Ordinary General Meeting of THE SURVEYORS' INSTITUTION, *on Monday, April 29th,* 1901.

JOHN SHAW (President) in the Chair.

I do not know what may be the acreage of the land in this country which consists of highways, but the total area so occupied must be very large. This large extent of land has long been the subject of special legislation. The rights of the public over it are jealously guarded. The rights of the owner of the soil are restricted and suspended. The highway authorities are invested with large powers over it, and have recently acquired in addition a special property in the soil. Moreover, a highway abuts, at some point or other, on the land of almost every landowner. It may therefore be of interest to those who have to advise landowners or local authorities, to consider shortly the general principles of the law governing the ownership of the soil of the highway, and the respective rights therein of the public, the owner, and the highway authority. In dealing shortly with these questions, I must ask indulgence if I appear to inform you on matters with which you are already familiar.

I propose to deal only with the public highway, and

I do not intend to refer to private rights of way enjoyed by way of easement or under license. A private road may be much used, but those who use it do so either by reason of the occupation of some parcel of land which carries with it the right to use the road, or else by the mere permission of the owner. They do not use it as of right as members of the public. Such a road is not a place where every member of the public has a right to pass and repass at pleasure. It is not a public highway. It is not subject to any special legislation, and no difficulty arises as to the ownership of the soil.

In connection with the distinction between public highways and private roads or rights of way, I may refer to the expression "private street" so common in many modern Acts of Parliament. A "private street" is private only in the sense that its maintenance and repair are still in private hands. It is not private in the sense of being a private road or right of way. A private street is a public highway, dedicated to the public, and on which all the public have a right to go.

Dealing only, therefore, with the public highway, it is hardly necessary to say that there are several classes of public highways which differ in regard to the nature and extent of the right of passage enjoyed by the public. The simplest and most ancient form of highway is the footpath, the right of public passage on foot only; the next is the driftway or bridle path, the right of passage on horseback or with pack horses, or, of course, on foot; lastly, we have the full highway, the complete right of passage in any manner, on foot, on horseback, or in vehicles. There is no difference in principle between these classes of highway, and the same general rules of law govern them all.

A considerable number of highways in this country were made in times comparatively recent under Acts of Parliament, such as Turnpike and Enclosure Acts. But, with these exceptions, all highways have their origin in a dedication by the owner of the soil of a right of passage over his land. Instances of such dedication are seen daily when new roads and streets are opened, and used by the public. In the case of ancient highways, it is of course impossible to say that any express dedication, or any actual dedication, ever took place. The highway has existed from time immemorial, and that is all that is known. In such cases the law assumes from the fact of public user that there has been at some time a dedication by the then owner of the soil.

No highway, therefore, can be made without a voluntary dedication by the owner of the soil, except, of course, by the authority of an Act of Parliament. On the other hand, a dedication to the public once made can never be revoked, and a highway which has once come into existence can never cease to be a highway, except by Act of Parliament or the order of Quarter Sessions. In a reported case a highway had been so long disused that large trees had grown where it formerly ran; but on the existence of the public right being proved, the trees were ordered to be removed and the highway to be reopened for public use.

Dedication, however, is a gift to the public, and it may be subject to limitations. In that case the public, if they accept the gift, must accept it subject to the limitations. Thus, if a highway be dedicated near to existing excavations, the dedicating owner need not fence either the way or the excavations. So there may be a dedication of a footpath subject to a right to plough it up periodically. But if a way is once dedicated, the owner cannot afterwards do anything to derogate from his grant. Thus, if there be an unlimited dedication of a footpath, it cannot be ploughed. So again, if an owner having dedicated a way, afterwards excavate near to it, he must fence the way or the excavation.

From the above statement of the legal nature and origin of highways, it follows that a person who dedicates a highway to the public does not divest himself of the property in the soil. He continues to own the soil subject to the public right of passage over the surface.

We have, therefore, to consider two main questions in regard to the ownership of the highway—first, how to ascertain who is the owner of the soil of any particular highway, and secondly, to what extent the owner's rights over the soil are restricted by the fact of dedication.

No difficulty exists in determining who owns the soil of a highway in cases where the highway came into existence by Act of Parliament. In such case the Act may expressly vest the property in the soil of the highway so created. But in the absence of such express enactment, the property in the soil remains in the former owner. Thus, where waste of a manor, the property of the lord of the manor, is enclosed under an Enclosure Act, and highways are set out, the soil of such highways remains the property of the lord, unless the Act expressly directs otherwise.

Most highways, however, have their origin in dedication. In that case no difficulty arises as to the ownership of the soil, provided the dedication be recent; the owner of the soil of the highway is the person who owned the soil before dedication. But most of the highways in this country are of great antiquity, and no record of their origin exists. In such cases there are certain presumptions of law as to who is the owner of the soil of the highway. In such cases it is presumed that the soil of the highway to the middle of the road belongs to the owner of the adjoining land. This presumption is applied in the construction of conveyances, where the land conveyed is stated to be bounded by a highway, and such conveyance is construed to pass the soil of the highway to the middle point, even though the measurements and the colouring of the plan do not include the highway, unless the other terms of the deed make it clear that the parties intended the highway to be excluded.

A rather striking illustration of this presumption was given in a case of *Hodges* v. *Lawrence** in 1854. You are aware that a landlord has a right, when rent is in arrear, to enter on the demised premises and to seize such chattels as he may find there, whether the property of the tenant or not. It is enough if they are on the demised premises. In this case a farm had been let, described as bounded by a certain highway. The rent was in arrear. A wagon was standing packed with goods, but without horses, in the highway, but on that half of it adjoining the farm. The wagon and goods were distrained, and the distress was upheld, on the ground that the land demised must be presumed to extend to the middle of the highway, and therefore the wagon and goods were upon the demised lands. If the wagon had been passing along the highway, it would not, I think, have been liable to seizure.

This presumption as to the ownership of the soil of highways is said to be founded on an idea that, when the road was originally dedicated, the adjoining owners set back their hedges in equal shares. But the highway probably existed long before the adjoining enclosures.

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* 18 J. P., 347.

Moreover, the same presumption is applied to the bed of a natural stream, where no such explanation is possible. It is more likely that the rule is merely one of convenience for determining the ownership of the soil of ancient highways.

This presumption as to ownership applies equally where the space between the enclosed lands is occupied entirely by a metalled road, and where the space consists of a metalled road with strips of waste on each side. Where a highway runs between enclosed lands, the law presumes that the whole space from hedge to hedge is dedicated and forms part of the highway, although only a strip in the middle may be metalled. But, notwithstanding this presumption, it is probable that most of these roadside wastes were not originally any part of the highway. There was an ancient right, when the highway was foundrous, to pass over unenclosed land adjoining the highway ; and in the days when highways were always bad, and often impassable, this right of deviation was of great value. The land over which this right existed was not part of the highway and could be enclosed ; but an owner who enclosed such land, and thus made deviation impossible, incurred a liability to keep that portion of the highway in a certain state of repair. To avoid this liability, owners of unenclosed lands adjoining a highway, when they enclosed such lands, left between their fence and the highway itself a strip of land over which the right of deviation might be exercised. Such was, probably, the origin of most of the roadside wastes which are, happily, so common a feature in this country.

These presumptions as to the ownership of the soil of highways may sometimes be of great practical importance—for example, where a railway is being constructed under a street. Parliament may, of course, give the promoters power to take the subsoil without compensation, just as power might be given to take the surface without making compensation. But in the absence of such powers the promoters must pay for the soil they take. The owner of the soil so taken not only obtains payment for the land taken, but he has also much wider rights of compensation for injury to his adjoining land than are given to a person who has none of his land taken. Where land is taken, the owner recovers full compensation for all damage to his other land by the construction or subsequent working of the railway, even though the damage would not be actionable if not done under statutory powers. But an owner who has no land taken can only recover for damage done in the construction of the railway where such damage would have been actionable in any case; and as to damage done by the working, however serious, he can recover nothing unless he can show needless injury. It therefore becomes important to ascertain whether the owner or the lessee of any particular house fronting such street are or are not the owners of the soil of the street.

Applying the above principles, we see that the owner of such house is presumed (in the absence of evidence to the contrary) to own the soil of the highway to the middle point, and his property extends to an unlimited depth. Some of the soil to be taken would therefore be his property.

As regards the lessee, if the lessor does not own the soil to the middle point, of course the lessee cannot do so. But if the lessor does own to the middle of the highway, then the lessee, during his term, also owns to that point, unless the terms of his lease indicate a contrary intention. And if he owns to the middle point, his property, also, extends to an unlimited depth, unless the lease indicates a contrary intention. The lessee would therefore be entitled to compensation.

But in each case the lease must be carefully examined. I lately had occasion to consider the lease of a London house, recently granted. The demised premises, as coloured on the plan, included only the actual house, and not the door-step, nor the area, nor the cellars under the footway. As to the area and these cellars the lease granted a right of user. I think that such a provision, for example, would be taken to show an intention that only the actual house was demised, and that under such a lease, the lessee would not own any part of the soil of the highway, although such soil might be the property of the lessor.

Having examined the rules which determine who is the owner of the soil of the highway, we have next to consider how far the rights of such owner over the soil are limited by the fact of dedication.

Certain recent statutes have made important alterations in the ownership of the soil of highways, and have vested such soil, to a certain extent and for certain purposes only, in the highway authority. I will refer to these statutes later. But subject to the special property thus conferred on the highway authority, all the former rights of the private owner of the soil remain in him. It is therefore necessary to see what those rights were, and (subject to these statutes) still are.

The owner of the soil of the highway can use and enjoy his property in any way that is not inconsistent with the public right of passage. The trees and herbage on the highway belong to him. He can let the right of pasturage on the roadside waste. If cattle are not using the highway to pass along it, but are, depastured on the roadside waste, he can maintain trespass against the person so depasturing them. He can resist any encroachment on the highway as an encroachment on his land. He can remove anything put upon the highway, not necessary to aid or regulate the public right of passage, and this whether the thing be an obstruction or not. He may excavate under the highway, make a tunnel, take minerals, provided he does not interfere with the public right of free passage over the surface. In the absence of statutory authority no pipes can be laid in the highway, no posts erected thereon, and no wires carried over it, without the permission of the owner of the soil. This applies to the whole highway, whether metalled road or roadside waste.

We have already seen that there may be a valid dedication of a highway subject to the right of the owner of the soil to plough it up in course of husbandry along with the adjoining land. And when a footpath has always been so periodically ploughed up, the dedication is presumed to have been so limited.

In the case of *Arnold* v. *Blaker** a footpath had been so dedicated. The highway authority repaired the path with hard materials which made it impossible to plough it up. It was held that their act was a trespass upon the rights of the owner of the soil. In this case it will be noted that the soil of the path was not vested in the highway authority under the statutes to which I shall refer later. If it had been so vested, they would probably have been entitled to repair it in any way they thought proper.

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* L. R. 6 Q. B., 433.

In a case in which I was recently concerned, a corporation were taking over a private street and had served the usual notices on the frontagers to make it up. In default the corporation were proceeding to make up the street. In doing so, they altered the relative width of the footway and carriageway as originally laid out by the building owner, making the footway narrower and the carriageway wider. This was done to obtain uniformity with neighbouring streets. The building owner, as owner of the soil of the highway, objected to this alteration, and his objection was successful. It was held that the corporation, as representing the public, must take the highway as dedicated, so much as footway and so much as carriageway, and that they were not entitled, by throwing part of the footway into the carriageway, to subject that part to the additional burden of vehicular traffic. In this case also it may be pointed out that the highway, being still a private street, had not vested in the corporation. If it had so vested, they would probably have been entitled to pave it in such proportions as they thought proper.

The rights of the owner of the soil of the highway are further illustrated by those cases in which persons have made improper use of the highway, and have then endeavoured to rely on the public right of passage.

In the case of the *Queen* v. *Pratt** there was a highway bounded on both sides by the land of one Mr. Bowyer, who was therefore (as we have already seen) the presumptive owner of the soil of the highway. Thomas Pratt, was seen on this highway with a dog, and carrying a gun. He sent the dog into a covert next the highway. The dog drove out a pheasant which Pratt shot at. Pratt was charged with trespassing in pursuit of game on land in the possession and occupation of Mr. Bowyer. He had never left the highway, and relied on his right as a member of the public to use the highway. The Court held that he was not lawfully using the highway to pass along it; that the highway was land in the possession and occupation of Mr. Bowyer; and that Pratt was guilty of trespass on that land in pursuit of game.

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* 4 E. & B., 860.

Similar questions were raised in a case of *Harrison* v. *The Duke of Rutland,*[*] which was decided in 1893, and attracted some attention at the time. The Duke and some friends were shooting grouse on the Duke's moor. There was a highway passing near the butts. The land on each side being the property of the Duke, the soil of the highway was vested in him. Mr. Harrison, in order to interfere with the sport, went upon this highway and endeavoured by waving his pocket handkerchief and opening and shutting his umbrella, and so forth, to prevent the birds from approaching the butts. When asked to desist he refused. He was then forcibly held down by the keepers until the drive was over, no more force being used than was necessary to prevent him from effecting his purpose. He brought an action for trespass and false imprisonment. The Court held that he was not making a lawful use of the highway, and that in acting as he did he was trespassing on the land and infringing the rights of the Duke of Rutland, and that he was therefore lawfully restrained. The action, therefore, failed.

To complete the chain of authority on this point, we have the case of *Hickman* v. *Maisey,*[†] decided last year. The plaintiff had let certain land on the Wiltshire Downs to a trainer of race horses. A highway passed near this land and at one point overlooked it. The soil of this highway was the property of the plaintiff. The defendant, a racing tout, went on the highway at the place mentioned, and walked up and down in a short space for about an hour and a half, watching the gallops and taking notes. He relied on his right, as one of the public, to pass and re-pass on the highway. The Court held that this was not a lawful user of the highway; that it was a trespass on the plaintiff's land; that it interfered unlawfully with the plaintiff's tenant, and tended to reduce the value of the land as a training ground. An injunction was granted to restrain the defendant from any repetition of the conduct complained of.

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[*] 1893, 1 Q. B., 146.

[†] 1900, 1 Q. B., 752.

These cases show how completely the rights of the owner of the soil of the highway are recognised by the law, subject only to the full public rights of passage over the surface.

I am dealing here with the ownership of highways, and I have referred to the right of the owner to resist any encroachment on, or obstruction to, the highway. But you are well aware that such right is not limited to the owner of the soil. The highway authority or any member of the public may remove any unlawful obstruction of the highway, or may proceed by indictment against the person responsible for such obstruction.

In view of these wide powers, many people probably ask themselves how the erection of telegraph posts in the highway, the excavation of the surface, and the constant obstruction of the right of free passage can be justified in law. It may probably be safely said that no such acts would nowadays be attempted without the express sanction of Acts of Parliament, public or private. By a series of statutes known as the Telegraph

Acts, powers are given to Telegraph Companies to break up the streets, and to erect and maintain posts on the highway with the consent of the highway authority. By the Gasworks Clauses Acts, powers are given to gas companies to break up the streets, to erect and maintain lamps, and so forth. And by the Electric Lighting Act, 1882, similar powers are given to electric lighting companies. As regards telephones, they are regarded as a species of telegraph, and the telephone companies derive their powers from the Telegraph Acts, 1863, 1878, 1892, and 1899, and from licenses granted thereunder by the Postmaster-General. It would be outside the scope of this Paper to examine these statutes in detail. No doubt they confer large powers of interference with the highway. If any person or corporation should, without statutory authority, erect any post on any part of the highway, or interfere with the surface (either of the metalled road or the waste), or in any way deal with the highway except to pass along it, he or they would be liable to proceedings by the owner of the soil. If his wrongful act amounted to an obstruction of the highway, he would further be liable to proceedings by the highway authority or by any member of the public.

So far, we have been considering the rights over the soil of the highway enjoyed at the common law by the owner of that soil. I have next to refer to those statutes which have vested the soil of certain highways in the local highway authority, and have, therefore, to the extent of such vesting, deprived the former owner of his property in the soil.

Within the Metropolitan area the matter is governed by the Metropolis Management Acts, 1855, which by section 96 provides as follows: "All streets being high-"ways, and the pavements, stones and other materials

" thereof, and all other things provided for the purposes
" thereof by any surveyor of highways . . . shall
" vest in and be under the management and control of "
the local highway authority.

As regards urban districts throughout the country the Public Health Act, 1875, section 149, provides that, "All streets being or which at any time become, high-" ways repairable by the inhabitants at large within " any urban district, and the pavements, stones and " other materials thereof, and all buildings, implements, " and other things provided for the purposes thereof, " shall vest in and be under the control of the urban " authority." That is to say, as soon as a street is made up and taken over by the highway authority, the soil of such street is divested from the former owner and vested in the highway authority.

As regards all rural districts, the only statutory vesting of highways is in the case of main roads, as to which the Local Government Act, 1888, section 11, provided that main roads shall be wholly repairable by the County Council, that an Urban District Council may claim to maintain a main road within their district, in which case the County Council shall contribute to the cost, and further that " A main road and the materials " thereof and all drains belonging thereto shall, except " where the urban authority retain the powers and " duties of maintaining and repairing such road, vest " in the County Council."

The result, therefore, is that in the metropolis and in all urban districts, the property in the soil of the highways is taken from the private owners and vested in the local highway authority. In rural districts only the main roads are so vested, all other highways remaining vested, as before, in the private owners of the soil.

As regards the roadside wastes, there appears to be a distinction between the vesting of all highways in the urban authority under the Public Health Act, and the vesting of the main roads in the County Council under the Local Government Act. In the case of *Coverdale* v. *Charlton*,* in 1878, it was held that, in an urban district, this vesting of the highways in the local authority included the roadside waste as well as the metalled road, and that the local authority had sufficient property in the soil of the roadside waste to enable them to let the right of pasturage thereon.

Relying doubtless on this decision, the County Council of the Kesteven Division of Lincolnshire in 1890, sold by auction the herbage on the roadside waste of certain main roads vested in the Council. The plaintiff, Mr. Curtis, was the lord of the manor. These roadside wastes were part of the waste lands of the manor, and were therefore his property, unless taken from him and vested in the County Council by the Local Government Act. The Council's contention was this :—Highways in urban districts are vested in the urban authority; this vesting has been held to include the roadside wastes; therefore the vesting of main roads in the County Council under the Local Government Act must also include the roadside wastes, and justify the sale of the herbage thereon. But the wording of the vesting sections in the two statutes is by no means the same, and it was held that the vesting of main roads in the County Council does not include the roadside wastes, but is limited to the metalled road only. The Council were therefore restrained from selling the herbage. It should be pointed out that the roadside wastes were admitted to form part of the highway, and that the County Council had jurisdiction over them, and could, for example, have removed any obstruction therefrom. But the question was, who had the property in the soil of the roadside wastes, and it was held to be vested in the lord of the manor and not in the Council.

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* 4 Q. B. D., 104.

The result is that in urban districts all highways (new streets excepted) are vested in the highway authority, both the metalled road and the roadside wastes, but in rural districts only the main roads are so vested, and even then only the metalled road proper, the waste remaining the sole property of the private owner of the soil.

A highway thus vested in the highway authority may happen to be widened by the dedication by the adjoining owner of a strip of land next the highway. In many London streets you will see, between the pavement proper and the shop-windows, a strip of pavement, sometimes at a higher level than the regular pavement and sometimes with gratings or lights for the benefit of the basement. Originally, perhaps, these spaces were open areas, and were covered in when the premises were converted to business purposes. These spaces of pavement may, or may not, form part of the highway, according as they have, or have not, been dedicated to the public. If they have not been dedicated, they remain part of the private premises of the occupier, and are repairable by him; but if they have been dedicated to the public and taken to by the highway authority, the stones, gratings, &c., vest in and become the property of the authority and are repairable by them.

It will be seen that the statutes above-mentioned make an important distinction between the status of urban and rural highway authorities in regard to the highway itself. I propose now to shortly consider the nature of the statutory property so conferred.

The property in the soil of the highway which is thus given is not by any means so complete as that of a private owner. It is limited in nature and extent. The rights of a private owner of land extend to an indefinite distance above and below the surface of the soil. The rights of property of the highway authority under these statutes extend only to such depth as is necessary for the due maintenance and repair of the road, and only to such height as is necessary to enable them to prevent any obstruction to the traffic. Outside these limits, both above and below, the property remains in the owner of the soil.

In the case of the *Corporation of Tunbridge Wells* v. *Baird,** in 1896, the corporation were desirous of excavating and constructing lavatories under the surface of the well-known highway called the Pantiles. The highway was vested in them as the highway authority. They proceeded with the work, and an action was brought to restrain them by the person who owned the soil of the highway subject to the statutory vesting in the corporation. The corporation contended that, as the soil of the highway was vested in them, they were entitled as owners to excavate the lavatories. But the House of Lords held that their statutory property did not go so far, and that the excavation was a trespass on the rights of the plaintiff as an owner of the soil.

Again in the case of the *Wandsworth Board of Works* v. *The United Telephone Company,*† the Telephone Company had erected a wire across a London street, but at such height as not to impede the traffic or to cause appreciable danger to the public. The Board, as the local highway authority, sought to enforce the removal of the wire. They contended that, as owners of the soil of the street, they had a right to object to anything being erected over their land at however great a height. A private owner could certainly so object. But it was held that their statutory property did not go so far, and that, as the wire did not impede traffic or endanger passengers, there was no infringement of the rights of the highway authority. If the private owner of the soil of this highway had taken action, he could probably have enforced the removal of the wire.

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*1896, A. C., 434.

†13 Q. B. D., 904.

These two cases serve to illustrate the limits in depth and the limit in height of this statutory ownership of the soil. In the case of the footways in London and other large towns, the statutory ownership can extend to a very small depth. The footway of an ordinary London street passes over the coal-cellars or other offices of the adjoining houses. A man who lays out a new street with houses of the ordinary London design, may be said to dedicate to the public, as part of the highway, a right of passage over the roofs of his coal-cellars. We have seen that in London the pavements are vested in the highway authority by the Metropolis Management Act, and by the same statute all vaults, arches, and cellars under any street are to be kept in proper repair by the owner or occupier of the house to which they belong. A curious point arose in the case of *Hamilton* v. *St. George's, Hanover Square,** where the coal-cellar under a pavement was so constructed that the roof of the cellar was formed by the actual paving stones. The stones became worn by the traffic and required repair. The local authority contended that these stones, forming the roof of the cellar, were a part of the cellar, and were therefore repairable by the householder under the statute just referred to. The householder contended that the stones forming the pavement vested in the highway authority, and were repairable by them. The Court decided in favour of the householder, that the stones, having been damaged by traffic, were repairable at the sole expense of the highway authority, and that they were not a part of the cellar within the meaning of the statute. In the case of ordinary cellars, having a roof of their own, the statutory property of the highway authority would probably include only the paving stones and any soil between the stones and the roofs of the cellars.

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*L. R. 9 Q. B. 42.

A highway authority can, by virtue of the interest in the soil thus conferred, set up in the highway poles and wires for electric lighting. In a case decided in 1891, the freeholder of the soil of a street in which this was being done without his consent, claimed an injunction. But the Court held that the District Council was within its rights, the poles and wires being erected to facilitate the user of the highway by the public.

A highway authority, by virtue of this statutory property, can give leave to a gas company to lay gas pipes in the highway for the purpose of street lighting, but they have no power to give leave to traders to lay pipes for purposes of private trade.

In a case of the *Salt Union Limited v. Harvey,** the defendants, who were brine makers, had broken up certain streets at Droitwich and laid therein, at a depth of 18 inches or so, pipes for the conveyance of brine. They had done this under a license from the Corporation of Droitwich, and they contended that the Corporation as the statutory owners of the soil of these highways could validly grant such license. The plaintiffs were the private owners of the soil of the highways, and they claimed an injunction to compel the removal of the pipes. It was held that the property of the corporation in the soil of these highways was not sufficient to enable them to license the laying of these pipes—since they had nothing to do with the maintenance or public user of the highway—that the pipes were a trespass on the rights of the plaintiffs as the private owners of the soil, and that they must be removed.

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*13 T. L. R., 297.

These cases serve to show that the ownership of the highway by the highway authority is very limited in extent, as compared with the rights of an ordinary landowner.

Moreover, the rights of an ordinary owner are perpetual, but if a highway ceases to exist as such as by being lawfully stopped or diverted, the property in the soil immediately ceases to belong to the highway authority, and revests fully in the private owner. In the case of *Rolls v. St. George's, Southwark*,* a highway thus vested in the local authority having been stopped up, they claimed the right to sell the soil of it as statutory owners. But it was held, that as soon as the soil ceased to have the character of a highway, the highway authority had no longer any title or interest therein, and that the soil was the sole property of the private owner.

A highway authority have no right to compensation, as a private owner would have, in respect of portions of the highways taken by a tramway company under statutory powers. This was settled by the Privy Council, in an appeal from New South Wales, relating to certain streets in Sydney which are vested in the

14 C. D., 785. *

Municipal Council of Sydney by the Sydney Corporation Act. It was held that the Council's property in the soil of the streets was not beneficial in the sense of giving a right to compensation.

All these cases assist in defining the nature and extent of the ownership of the soil of the highway by the highway authority. It will be seen that the tendency of the decisions is to restrict such ownership within very narrow limits, and to trench as little as possible upon the rights of the private owner of the soil. The position created by these vesting sections is somewhat anomalous. There appears to be something in the nature of a dual ownership. The private owner of the soil remains the owner. He remains the *sole* owner outside the narrow limits to which the statutory property of the local authority is confined. Within the limits of the property of the local authority the ownership of the private owner seems to be in abeyance. It is certainly not extinguished, because, if the land ceases to be a highway, the rights of property of the private owner immediately come into full force. This statutory vesting must modify many of the earlier decisions as to the rights of the private owner of the soil (to some of which I have referred) in the case of urban highways and main roads, and probably its nature and scope is not yet by any means fully determined.

As an illustration of the kind of question that may arise, I may perhaps mention (in concluding these observations) a point on which I was recently asked to advise an Urban District Council. One of the highways vested in them immediately adjoined a natural stream. You are well aware that owners and occupiers of land immediately adjoining a natural stream have, as incident to such ownership and occupation, certain rights in the waters of the stream, sometimes called riparian rights.

In the case to which I refer, the District Council had been accustomed, at the point where the road and stream adjoined, to take water from the stream for use in mending the road in the neighbourhood of the place where the water was taken. This was objected to by a landowner lower down the stream, who complained that the flow of water to his land was diminished. If the District Council had the rights of riparian owners over the soil of the highway, they almost certainly had a right to do what they did. If they had not those rights, their position was very doubtful. The question, therefore, was whether the soil of the highway was vested in them to such an extent as to give them the rights of riparian owners to the extent claimed. Assuming that the soil of the highway belonged to the owner of the adjoining land, he would in the ordinary course be the riparian owner, and he would enjoy riparian rights in respect not merely of the soil of the highway, but of all the rest of his adjoining land. If, then, the highway became vested in the District Council so as to oust the private owner, he would be cut off from the stream, and would lose the benefit of riparian ownership in respect of all his land. On the other hand, the contention of the Council seemed not unreasonable, since they are undoubtedly owners of the surface for highway purposes, and only proposed to use the water to mend the road. Lastly, was it possible that a kind of dual ownership of the surface could exist, and that both the private owner and the District Council were entitled to riparian rights? The matter was settled, and the point was therefore not decided. I was, myself, inclined to think that the District Council were entitled to the extent, and for the purpose claimed by them, to exercise the rights of riparian owners. The matter serves to illustrate the kind of questions which are likely to arise from time to time, until the nature and limits of this statutory ownership are finally settled.

On this subject, therefore, of the ownership of the highway, we have examined the rights in and over the soil enjoyed—first, by the public, secondly by the private owner, and lastly by the highway authority in those cases where statutory vesting exists. We have seen that the rights of the private owner are fully recognised, that the statutory ownership of the local authority is strictly limited, and that, while the public right of passage is jealously guarded, care is taken that it shall not be abused. I hope that this rough summary of the law on this matter may not be altogether without interest to those who constantly have to consider (as advising landowners or local authority) what may be done and what may not be done in and with the soil of the highway.

Mr. HOWARD MARTIN (Fellow) said it gave him great pleasure to propose a hearty vote of thanks to Mr. Clavell Salter for his very valuable Paper, which formed an exposition of an extremely complicated subject, so clear, so logical, and so well arranged, as to convey to any layman a sound knowledge of the principles of the law concerning it. It was especially opportune and interesting at a time when many surveyors had seriously to consider questions arising from the contruction of railways under the public streets of London.

The Paper made it clear that the construction of a railway under a public street involved the acquisition of part of the property of the freeholders of the houses abutting on the street under which the railway ran, and that if a freeholder had included in leases of his houses all his own rights, the construction of these railways involved the purchase of part of the leaseholder's property also. But the question which frequently arose was whether a building lease included all the rights of the freeholder in the soil of the highway, or whether it included a mere right of access over the street, and whether it included a right to the soil under the house for purposes beyond the support of the building. If Mr. Salter could decide that question it would be of very great service to many at the present time.

Questions of the most difficult kind constantly arose in connection with the subject of the Paper on account of the different rights over highways exercised by the local authorities in differently constituted districts, and also from the statutory powers that had been conferred upon bodies, such as telegraph companies and the Post Office, and the rights often assumed (though not actually possessed) by public bodies and private companies. The unhappy surveyor was frequently called upon to advise a client as to whether or not a certain act was lawful which, while it might be perfectly right on one side of a boundary, might be equally wrong on the other, because one was an urban and the other a rural district. He would quote an instance. Not very long since, the Telephone Company obtained the consent of a County Council to erect telephone poles on the roadside between the metalled road and the fence of the adjoining owner. The adjoining owner insisted on the Telephone Company taking the poles down. They objected, on the ground that they had the consent of the County Council. The owner, being advised that they had no right to give any such consent, cut the wires and sawed down the poles, but the Telephone Company never brought an action against him, and meekly carted the poles away.

He must confess that when asked what the respective rights of the Telephone Company and the landowner were he could at the moment give no very definite answer, but if he had previously read Mr. Salter's Paper he should have felt very much more confidence. Without venturing to trespass on the province of lawyers, it was impossible that surveyors could form a really sound opinion on many of the questions with which they had to deal, without having a clear and logical appreciation of the bearing of the law on those questions.

The Paper which Mr. Salter had read was a worthy addition to the long series of contributions to the *Transactions* for which the Institution was indebted to its legal friends, and which were among the most valuable books of reference for surveyors.

Mr. C. BIDWELL (Fellow) said that he wished most heartily to second the vote of thanks to the author of the Paper. Speaking as a country Member he knew of no subject more fruitful of dispute and litigation than the questions which arise as to the ownership of the waste and frontages bordering the highways. He was very glad to see by the Paper that the rights of the private owner were safeguarded by the law.

It was too often the case nowadays that County and District Councils and others attempted to assume rights to which they did not possess a title. It was commonly believed that such bodies had the full control of the highway from hedge to hedge, but Mr. Salter had said that this was not the fact. The County Council had a right to maintain and look after the metalled part of the highway. They had also a duty to see that the sides of the road were not in any way dealt with so as to injuriously affect or obstruct the passage of traffic over the highway. He noticed that on page 364, Mr. Salter stated very clearly that in rural districts only the main roads were so vested, and even then only the metalled road proper, the waste remaining the sole property of the private owner of the soil.

A case in point had come under his notice not long ago. It became the practice of people in a certain district to mow the highway wastes and take the grass off to their respective farms. The ownership of the soil was of course vested in the adjoining estate, and he, as agent to the owner, had been obliged to summon one person before the county court judge, who very clearly defined the law on the subject, with the result that no further trouble had arisen.

He was sure that the Members would agree with him that Mr. Salter's Paper would be most valuable for reference on questions which were often very puzzling, and would thank him for the clear and precise information which it contained.

Mr. A. VERNON (Fellow) said he was glad to add a word or two to those of his colleagues who had proposed and seconded a vote with which he cordially agreed. He had always found it very dangerous for a surveyor to try and play the lawyer. When one commenced to wander among the intricacies of a difficult question like that under discussion he was in danger of getting a little confused by the various precedents, not being able to distinguish so clearly as a lawyer would the minute differences of detail and fact on which the various judgments were based.

He would like to know, however, what was the exact extent to which the law vested the highway in the authorities to whom Mr. Salter had referred. He supposed the answer would be that it only vested in them for the fulfilment of the special public duties which their position required them to undertake, and that all other rights remained vested in the owner of the soil. But that involved a number of points such as the right to carry wires, to erect posts, and various other things which in many parts of the country Councils were endeavouring to establish their right to control.

A County Council with which he was connected was earning a very fair revenue from the telegraph posts and telephone posts placed along the roadside wastes. But was that strictly in accordance with the law? It was not a use of the waste for the benefit of the highway, and the revenue, if it belonged to anyone, should go, it seemed to him, to the owner of the soil.

The various County Councils had been much exercised by the question of the ownership from hedge to hedge. It had been clearly stated (and he thought legally enacted) that the Councils were the custodians of the main road wastes, and had certain statutory duties as well as rights to prevent enclosure, but if the rights of a landowner still existed over those wastes, and if those wastes were absolutely useless for the purpose of the maintenance of the highway, it seemed to him that they might well be enclosed, where such enclosure did not interfere with the free use of the highway by the public.

That was a very important question in places where the roadside wastes were of large extent. Perhaps Mr. Salter would say whether adjoining owners possessed any right to enclose such land, without of course interfering with the passage of the public, or of flocks, or with the other purposes for which the roads were used.

One other point was referred to in connection with urban districts. There was a growing tendency of the by-laws in rural and urban districts to become exceedingly oppressive in the hands of thoughtless legislators. It was of great public advantage that building tracts should be developed throughout the country, but he found a very general disposition to apply by-laws with unnecessary and prohibitive severity. An attempt was frequently made by the county or district officials to compel persons laying out new roads not only to form them of the stipulated width and to put drains in for water and sewage, but to provide, even from the first, paved or concreted footways, curbings, and channels, which were quite unnecessary until the neighbourhood was developed. He thought that on first forming a new road an owner should be compelled only to do what was absolutely necessary for the use of the estates afterward, completing it to fit it for public traffic and dedication.

Mr. HOWARD CHATFEILD CLARKE (Fellow) said, as a London surveyor, it was somewhat difficult for him to speak on this subject, but there was one question he would like to have Mr. Salter's reply to. He noticed that he had not dealt with the question of the sewers, and the vesting of the sewers and rain-water drains under streets, the surface and soil of which was vested in the public authorities. Doubtless Mr. Salter would kindly explain his views on this, which he (Mr. Clarke) thought all would agree was a very important matter.

He believed that in certain parts of the metropolis—in the City of London for instance—there were certain Acts of Parliament dating back, he thought, to the time of Queen Elizabeth, which affected more or less the right of ownership, even below the depth which was necessary for the maintenance of the highway. To everyone living in a country district the question of waste lands was most interesting, and he was very glad to hear Mr. Salter's opinion that the waste was not vested with the metalled road in the public authorities, and that the owners had proper rights over it—rights which he believed were generally exercised for the benefit of the public at large.

Mr. A. MACDONALD BROWN (Fellow) said he feared that from the very nature of things the gratitude of Members who were interested in the author's Paper must at least be leavened by a sense of favours to come, and that Mr. Salter's kindness in affording so much legal information would inevitably result in a demand for more information still.

On one point he would like to ask for guidance. What was the actual boundary of the width of road over which the local authority could claim rights? It was said to be "from hedge to hedge," but did this extend to three or four feet outside the hedge, as in ordinary boundary fences, or was it to be measured to the stake of the hedge? A complaint had been made by Mr. Vernon with regard to the unreasonable way in which local authorities insisted on the immediate completion of new roads. In this respect he had met with no very great difficulty, but perhaps, after all, this was a question of the individuality of the official with whom one happened to have to deal.

A curious point had come under his notice with regard to the obliteration of footpaths. A path ran between two large reservoirs, which, under unusual circumstances, had flowed together, forming one reservoir, and the path had disappeared beneath the water level. The owners of the reservoirs denied their obligation to maintain the path; the public, they said, had a right to walk over it still, in spite of the two or three feet of water which covered it; and so, of course, the right of way was lost until some future time when the water might possibly subside.

Mr. Gilson Martin (Fellow) said that he thought Mr. Salter had dealt so fully with the subject that there was very little left to say upon it. He did not, however, remember any allusion in the Paper to the fact that, as a rule, it was assumed that the road was divided equally between the owners of the two properties adjoining it. He took it that in a case where it could be shown that the whole of the road came from one owner's land this owner would always continue to have the right over it—the whole of the road instead of the half, as was usually the case in a road dividing two properties.

Many new roads in Derbyshire, where he lived, had been made, almost as a railway was made, by cutting and filling. Where the road was cut through a hill it was a question whether the owner of the adjoining land was entitled to support, and whether, if his fence slipped into the road from negligence to maintain the banks, he could come upon the highway authorities for the restoration of the fence. And again, where the road was on an embankment, was the owner of the adjoining land bound to keep up the fences on the top of the embankment or did that properly fall on the highway authority?

Another rather difficult point had arisen in his own experience: it was somewhat parallel with that raised by the case of *The Duke of Rutland* v. *Harrison*—viz. on the question of the legitimate user of the highway. At the entrance to Bolton Abbey a man constantly coming to sell oranges was found to be a nuisance, for he brought half a dozen children, each with a basket, which he placed all over the road. He has been brought before the magistrates on the charge of obstructing the highway, and from time to time small fines had been inflicted, which, however, his trade, owing to his advantageous position, enabled him easily to pay.

Mr. J. H. SABIN (Professional Associate) said he happened to know very well the line of road which bounded the property of Mr. Curtis, mentioned in the Paper.* It ran between the counties of Lincoln and Nottingham, and was about 200 feet wide.

The case had, apparently, been decided on the ground that Mr. Curtis claimed as lord of the manor, and one wondered what would have been the decision had he claimed as owner of the adjoining property and not as lord of the manor. The area of the waste was, he believed, very small indeed.

The PRESIDENT said that he thought Mr. Salter, in his Paper, had laid down the present state of the law with regard to the ownership of the highway in the clearest possible manner, and they were all very much obliged to him; but he remembered, as perhaps other Members present might remember, the early days when, under the Highway Act, public roads were made in many places through the open fields. In such cases there could be no question when those roads became enclosed that the ownership of the soil was the same on each side. But in one case which he had in his mind the road originally went over open fields which happened to be on the boundary of the estate. That road became enclosed, and now lay in one parish on the estate of the same owner, who was still the owner of both fences of the road, and the soil remained vested in him.

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* *Vide* p. 363 ante.

It was true that, excepting in such cases, it was usual to regard the centre of a road as the boundary between the property of one owner and another.

There was another point to which he would like to call the author's attention. He said in the Paper that where the waste of a manor was enclosed under the Enclosure Acts and roads made, the soil of such roads remained the property of the lord of the manor, unless the Act expressly directed otherwise. He was not himself a lawyer, and he could not set up his opinion as against Mr. Salter's, but, as a fact, experience in the matter of enclosures taught him that there was always an allotment set out to the lord of the manor for his right in the soil, and in his opinion that allotment took away from him any right to the soil that he might have in the roads of such waste, and practically the roads belonged to the adjoining landowners. Of course the minerals would pass to the lord of the manor in the ordinary way.

He should much like to have had from Mr. Salter some information as to the rights of the highway authorities at the present time. Under the Act of 1835, and until 1888, the highways were managed by a highway surveyor appointed by a parish vestry. They now passed, under the Act of 1888, to the rural district authority, and that authority appointed a person who was called their surveyor, who issued notices and took action.

He would like to be informed exactly whether there was any difference between the powers possessed by the old highway surveyors and those of the present authorities.

Mr. Clavell Salter, in reply, said the trepidation with which he had accepted the very flattering invitation to read a Paper before the Institution would have been much increased if he had realised that, in addition to the reading of the Paper, he would be subjected at its conclusion to so severe and searching an examination.

He would endeavour to deal with the points raised during the discussion as nearly as possible seriatim. He agreed that the subject of highway law was, as one speaker had very well said, fruitful of dispute and litigation; not altogether unfortunately, perhaps, for his own profession, and not without affording some remunerative occupation to the surveyor.

One speaker during the discussion had referred to questions which arose in cases where a highway was either carried on a raised bank, or lay in a cutting, and asked on whom, in such case, the liability rested to look after the necessary banks and on whom did the duty to fence lie. He did not think any real difficulty need arise in this case. It was impossible to decide such a question off-hand without knowing whether there might not be facts of the particular case which would take it out of the ordinary rules, but, speaking generally, he would say there was no difficulty at all.

There was a presumption that everything from hedge to hedge was highway, and therefore the banks between the hedges would be highway, and would be repairable as part of the highway by the highway authority. With regard to fencing, the rule was generally that the highway authority was not bound to fence, but that the adjoining owner, if he wished to keep his cattle from straying, must fence his own land. Then with regard to the right of support; in such cases the highway authority would certainly be bound to see that the banks, where the road ran in a cutting, were kept in proper order, for if the soil of the adjoining owner fell in with the banks he would be entitled to bring an action.

The next point raised related to leases, and the question, as he understood it, was how far a lessor, who undoubtedly owned the soil of the road, in granting a lease (whether a building lease or other), passed to his lessee under that lease his interest in the soil. He feared it was impossible to answer the question more definitely than to say that it depended upon the intention of the parties as gathered from the lease. But in cases where the demised premises were described and defined as bounded by a highway, unless the lease expressed a contrary intention, the lessor's interest in the soil of the highway passed under the lease. Cases had been decided, more especially in regard to building leases and where estates were being laid out, in which it had been held that although the lessor had the property in the soil of the highways, no part of that right passed under the leases—simply because the Court came to the conclusion that there was no intention on the part of the landlord to part with any more of his interest in the soil. It was impossible to say more in answer to a question of that kind than that it was necessary to look at the lease in every case. If it were found that the demised premises were described as bounded by a highway, then, if the lessor owned the soil to the middle, the lessee would do so also, unless the lease indicated a contrary intention.

The case to which he had referred as an illustrative one was that of an ordinary London house, where it would be observed the landlord, while leasing the actual body of the house, did not demise the area or even the front door-step or the coal-cellars under the footway. With regard to these he expressly provided that the tenant was to have a right to go there, but the tenant would, when upon that land, not be there as a tenant, but as a licensee only. In such a case the Court would doubtless have held that the freeholder had no intention to demise, with the premises, any portion of the soil of the highway. Therefore in deciding whether or not the right in the soil passed under a building lease, the only way was to look at the lease to ascertain whether the ordinary rule applied.

A good deal had been said as to the right of local authorities, by virtue of their statutory property, to erect wires and posts and other obstructions on the highway.

Without dealing with any question of express authority where any local or public Act gave special power for a special purpose, as a matter of principle, the rule might be taken to be that they might do anything which, while reasonably within the powers granted to them, did not unreasonably obstruct the highway, and was fairly and properly done to facilitate the use of the highway.

In a case where the local authority were held to have power to put up posts and wires for electric lighting, the private owner objected that they were putting up these things on his soil, and that they had no right to do so. The Court held that the local authority was right, as the work was undertaken to facilitate the use of the road. Then again, it was easy to see the destinction between a right to put down gas mains for public purposes and to lay pipes for private purposes. The private pipes in the Droitwich case, for instance, were laid to assist private traders in carrying out their business, and it was held that although those pipes were quite close to the surface, the highway authority were not entitled to disturb the soil for the purpose of laying them to serve the ends of private traders.

Then it was asked whether the highway authorities were entitled to erect telephone and telegraph poles and wires. In his opinion they were not, apart from express statutory powers, as such things were not put up for the benefit of the public user of the highway.

The next point raised, related, he thought, to the wastes by the side of the main road, and he had been asked whether they might be enclosed in cases where they were extensive, and where it was urged that the enclosing of them would not interfere with the public right of passage over the highway. The answer was—such roadside wastes either were, or were not, part of the highway. An ordinary roadside waste was presumably part of the highway. But there was often a wide strip of roadside waste which formed part of an adjoining common, of which it was really an outlying portion. In such cases the roadside waste would be considered to be part of the common, and the property of the lord of the manor, and not part of the highway.

But with regard to the question whether adjoining owners might or might not enclose the roadside waste, the answer must be—certainly not. Such an enclosure would be an obstruction which any person might take proceedings to remove.

Then as to the vesting of the sewers. He had not referred to the question of sewers because it had not appeared to him to be logically any part of the subject of his Paper, which dealt exclusively with the ownership of the soil of the highway.

A sewer was a pipe which took the drainage of more than one house or more than one set of premises, and vested immediately as a sewer in the local authority, who were responsible for its maintenance. It had nothing to do with the highway.

It was interesting to hear that in the City of London some old Acts carried the ownership of the soil deeper than was usual, but on that point he was not able to express any opinion as he was not acquainted with the facts.

A speaker had referred to the question of the limitation of width "from hedge to hedge," but he doubted whether any general rule could be laid down. One would say that, *prima facie*, a man was supposed to go to the end of his land, and that his boundary would be the side of the ditch furthest from his bank. But the matter might be so complicated by the question whether the roadside ditch was made by the highway authorities (for instance for carrying off surface water from the roadway) that he thought no general rule could be safely laid down.

Another speaker had asked whether the presumption that the middle line of the highway was the boundary, would apply where the soil of the road had originally belonged wholly to the owner on one side or the other. Obviously it would not, for the reason he had explained. In the case of recent dedication it could be demonstrated to whom the soil of a particular highway belonged; but in the very numerous cases of ancient highways, where from their very nature there could be no record of any time when they were not highways, the presumption was that the boundary was the *medium filum viæ.*

The last speaker had referred to Mr. Curtis's case, where a distinction was drawn between the roadside waste in rural and urban districts, and had said that Mr. Curtis claimed as lord of the manor—which was true—and asked whether it would have been the same if he had claimed as owner of the soil. The answer was that he did claim as owner of the soil.

Mr. SABIN explained that he meant the owner of the adjoining soil.

Mr. CLAVELL SALTER said he understood Mr. Sabin to mean the owner of the estate on the far side of the waste. The point, of course, was that this roadside waste was part of the highway. As part of the highway it must be vested in one of two parties, either in the local highway authority as such, or in the person who otherwise would own the soil.

The land in question was waste of the manor, and therefore belonged to the lord of the manor. Being waste of the manor it would belong to the lord. But he thought he was right in saying that Mr. Curtis did claim as owner of the soil. As lord of the manor the land was his, and the question fought was whether it was his land subject to the public right of passage, or the land of the highway authority subject to the public right of passage.

Then the President had referred to the question of Enclosure Acts and allotments, and to the observation which he (Mr. Salter) had made, that where the waste of a manor was enclosed under an Allotment Act and highways were made, the soil of those highways would remain vested in the lord of the manor unless the Act expressed otherwise. Now, the President had pointed out that under some Acts there was an allotment to the lord, and suggested that under such an Act the presumption would be that the soil of the highway would belong to the adjoining allottees. But if it did the reason would be that the allotment to the lord would be taken to show an intention on the part of the framers of the Act that he should take the allotment as exchange for the right he would have otherwise had. It would be simply an illustration of the general rule which he had stated, that unless the Act expressed a contrary intention the ownership of the soil of the highway remained after the Act exactly as it was before.

Reference had also been made to the office of surveyor of highways and to his position under modern highway authorities, but that he thought was a question with which this Paper was hardly concerned. He had originally intended to deal with some matters of the kind, but he had found that the main subject was quite enough to occupy one Paper.

A good deal of contention frequently arose with regard to the repair of the highway, and then came in the surveyor of the highways, who, he need hardly say, was an official of great antiquity and of equally great importance. His duties and rights had descended to the modern highway authorities who were, therefore, for instance, not liable to be sued when an accident happened consequent on their non-repair of the roads.

There was a case at Poole, in Dorset, where it was proposed to indict the local authority for non-repair of the highway, but they successfully established that they were the successors, not of the inhabitants at large, but of the highway surveyor. The Court accordingly held that this being so, instead of indicting the authority, it was still necessary to indict the inhabitants at large.

He had endeavoured to deal shortly with the questions which had been raised, but of course a direct, full answer could only be given with a complete knowledge of the facts of the particular case.

He desired heartily to thank the President and the Members present for the very kind way in which they had referred to his Paper and for the appreciation they had shown of his efforts to deal as completely as possible with the subject. This he had found to be a matter of some little difficulty, for it was not easy to estimate exactly beforehand how much knowledge of the subject he might find his audience to possess.

But he would ask the Members to be lenient, and would suggest that if anyone present would, for a moment, imagine himself reading a treatise on some purely surveying matter before a roomful of lawyers he would appreciate the difficulty of exactly fitting his Paper to his audience. He thought it was probable that he had introduced a good many points with which Members were familiar before, but if he had done so he must ask their indulgence.

The vote of thanks having been put, and carried unanimously, the Meeting then adjourned.

The PRESIDENT announced that the next Meeting would be at Southampton, on the 30th and 31st of May.

THE SOUTHAMPTON VISIT.

AT

THE ORDINARY GENERAL MEETING OF THE SURVEYORS' INSTITUTION.

Held at the Hartley College, Southampton, on Thursday, the 30th May, 1901.

His Worship the Mayor of Southampton (Major G. A. E. Hussey), in receiving the Members, said he shared with them the feeling of great regret that the President of The Institution (Mr. John Shaw) was unable to be with them at the Conference owing to indisposition, and he was sure all would join with him in the fervent wish that his indisposition might be but temporary, and that he would be soon restored to health. It was at the same time a matter of satisfaction that the President elect, Sir John Rolleston, was able to take Mr. Shaw's place.

In the course of the period of three years during which he had had the honour to be Mayor of Southampton he had several times performed the pleasant duty of welcoming learned societies and scientific institutions, in the name of the town of Southampton and what had particularly struck him in this instance was the amount of really practical hard work which the Members proposed to combine with schemes of pleasure and good fellowship. Such meetings must of course tend to popularise the important practical societies of the kingdom.

He thanked them for having considered the ancient borough of Southampton of sufficient importance and interest to render it suitable as a place in which to hold a Conference.

The Handbook, a copy of which had been sent him, so ably and fully put before the Members all the places of interest to the profession, that it would not be necessary for him to dilate in any way on the beauties of Southampton or its neighbourhood, or to act as the showman of the many attractions of the ancient town he had the honour to represent.

In conclusion, he welcomed the Members heartily to Southampton, and hoped that their short stay would be a pleasurable one, and that none of them would regret the fact of having joined in the visit to Southampton on the occasion of the Conference of 1901.

Sir John F. L. Rolleston, M.P. (President Elect), said he felt sure that all present very much regretted that the kind expression of welcome which the Mayor had accorded the Members of The Surveyors' Institution could not have been acknowledged by their esteemed President, Mr. John Shaw, and this regret was the more keen as ill health was the cause of his absence from one of the most agreeable Meetings of the Session, debarring him from the very pleasant duty of attending the many attractive functions which the Mayor and the Provincial Committee had been good enough to provide. He was sure he might say on behalf of Mr. John Shaw that the disappointment he felt was as great as their own that he should not be able in person to thank the Mayor for his kindness and courtesy in receiving the Members in the ancient and historic borough over which he presided, with honour to himself and advantage to its citizens.

On behalf of the President, Council, and Members, he therefore begged to thank the Mayor and Corporation most cordially for the welcome extended to The Surveyors' Institution.

The Mayor having vacated the chair, it was taken by Sir John Rolleston, and a vote of thanks having been put and carried unanimously, the Conference was declared open.

Paper 265.
No. 427.

FIRST PAPER.

SOUTHAMPTON: PAST AND PRESENT.

By WILLIAM BURROUGH HILL, Fellow.

Sir John F. L. Rolleston, M.P. (Vice-President), in the Chair.

Southampton 100 years ago was but a small town, with possibly about 8,000 inhabitants, and now, as the preliminary report of the new census shows, it has a population of over 103,000.

It is impossible to give anything like a detailed history of a town so full of ancient and historic interest in the brief time at my disposal. I propose, therefore, to confine myself to a short general outline, referring more particularly to the antiquities for which it is distinguished.

Southampton and district have many indications of prehistoric population; flint implements of the Early and the Late Flint Age having been discovered in the gravel beds of rivers and watercourses. An exceedingly fine and highly finished specimen was discovered in some drainage works under my superintendence only a year or two since. An expert in such matters gave it as his opinion that this implement probably dated from about 2,000 years B.C. The discoveries of Roman pottery and coins have from time to time been very numerous, but I am sorry to say that most of these relics have been sold or bartered away by the finders for a few shillings, and no carefully arranged collection has been made or preserved.

I recently discovered when excavating at a depth of some few feet at Portswood, near the ancient landmark "Langhearne Gate," for the construction of roads on the Hampton Park Estate, two very fair specimens of early Roman pottery.

No doubt the configuration of the whole district was altogether different in prehistoric times. Be that as it may, it is beyond question that Southampton possesses one of the finest harbours in England, which, owing to its position with reference to the Isle of Wight, enjoys the very exceptional advantage of a second or double tide, which practically ensures four hours of high water out of every twelve.

There seems ground for believing that Southampton existed as a British settlement in pre-Roman times, but this is little more than conjecture.

The Romans doubtless first occupied the position known as Clausentum, which they made a fortified station, it being situated on a river which formed a natural highway. The date of this settlement was probably about 320 A.D. Clausentum is mentioned as being a certain distance from Regnum and Venta Belgarum, places usually identified as Chichester and Winchester.

About the middle of the fifth century the Romans abandoned Britain, and the ravages of time have erased and destroyed nearly all traces of their occupation.

The present house at Clausentum (unfortunately about to be demolished) was erected about the eleventh century. It is a castellated building, now ivy-clad, and occupying probably one of the spots in England most interesting to antiquaries.

Attention was first called to this historic place at the beginning of the present century, when Sir Henry Englefield published the results of his careful investigations which went to prove there was an occupation as early as the third century.

The first mention of Southampton "Heantun," and Hamtunscire," as it was then called, occurs in 837.

We are told that a large force of Danes landed at Hampton from 35 ships, but were repulsed with great slaughter by the shire ruler "Ealdorman Wulfheard."

Across the river, opposite Clausentum, a settlement was made by the Romans at Northam. After their retirement from Britain, this settlement developed, and during the early Saxon period embraced the district now known as St. Mary's, Southampton subsequently becoming an important port, well fortified with walls and dykes and many towers and gates.

The town was first incorporated in the reign of Henry I., whose charter was confirmed by Richard I. and by King John, who assigned the customs of the port to the burgesses for an annual payment of £200. Its privileges were extended and confirmed by Henry VI., who constituted the town a county of itself, and these privileges were further extended by Charles I. The first mention of a mayor is in 1217.

The northern entrance to the High Street is through the beautiful Bargate, the best preserved gateway of the once entire walls surrounding the town. The northern side of this gate is Edwardian, of very imposing appearance; the centre or inner arch is of the Norman period.

It would require a whole volume to describe the ancient walls, gates, and palaces of this very old and interesting town, and I would refer Members seeking further information to the *History of Southampton*, written by the Rev. J. S. Davies, or to Sir Henry Englefield's *Walk through Southampton.*

Southampton is rapidly becoming a seaport of the first importance, principally owing to the enterprise of the London and South Western Railway Company, who now own the docks. In addition to the "Empress" Dock of about 18½ acres, there is the "Prince of Wales" dry dock, which is the largest single graving dock in the world. The extraordinarily expeditious manner in which the troops were despatched to South Africa before and after the outbreak of the war is the best testimony to the capabilities of the great works of dock extension already completed.

The town has many advantages, such as the parks, the magnificent Common of nearly 370 acres, with its drives, walks, cricket and golf grounds, amid beautiful gorse, fir, oak, elm, and other timber trees, approached through the fine Avenue, which all tend to make it especially attractive as a residential town as well as a seaport.

The Sewage Works, Refuse Destructor, the Electricity Works, the Electric Tram Service, the Docks, the Pier, the Ancient Walls, and many other objects of interest are all well worth a visit.

The Southampton High Street with the Above Bar Street (which is a continuation of the High Street) is one of the finest and most picturesque streets in England.

In other respects Southampton enjoys special advantages. While only about one and three-quarter hours from London, it is within a short drive of the New Forest, with its 92,000 acres of sylvan scenery of almost unrivalled beauty. The Isle of Wight can easily be reached by well-appointed steamers, and Bournemouth and Salisbury can each be reached in about an hour.

No reference to Southampton would be complete without a mention of King Canute. Everyone is familiar with the legend, though whether or not it rests on an historical basis is fair matter for controversy. The moral of the story (that kings are but human) is not affected by the credibility of the narrative. Some place the site of the King's reproof to his courtiers close to the present docks, others favour a position nearer the Pier, not far from which are still to be seen the remains of what was known as "King Canute's Palace."

On August 5th, 1620, "The Pilgrim Fathers" set sail from Southampton for "The New World" in two small vessels called "The Mayflower" and "The Speedwell." The latter put back after reaching Plymouth, but the "Mayflower," a barque of less than 200 tons, stood on, and carried its 41 emigrants with their families (all told about 100 souls) to Massachusetts, where they landed in November at a spot which they named "New Plymouth."

King Charles visited our town in 1625, and is said to have taken up his abode at 17, High Street (now Mr. F. Shalders' business premises) where there still exists a magnificently carved black oak chimney piece. A few years since a fire occurred at these premises, and to save it from destruction this chimney piece was torn down and thrown out of window. Fortunately the fire did not reach this apartment, and the greatest pains were taken in restoring the chimney piece and the panelling to the room, which the owner is always willing to show to antiquaries and others interested in old Southampton.

There are records of many other royal visits.

I must not omit to call attention to the very picturesque and beautiful remains of Netley Abbey, founded about 1288. It is situated a few miles only from our town and almost close to Netley Hospital. Beaulieu, too, on the other side of the water, has some interesting archæological remains.

While something has been done to preserve the history of "Old Southampton," no attempt, so far as I know, has been made to illustrate that history by bringing together a collection of the numerous works of art connected with it, which are scattered throughout the country.

I have spent much of my leisure for many years in getting together a pictorial record of my native town, which is open free to the public at the Philharmonic Hall, Above Bar; and if my collection should stimulate others to seek for and preserve any interesting and instructive links with the past, not only as regards Southampton but other towns of Hampshire, I shall consider my own effort not to have been made in vain. In a few years many of these beautiful and interesting pictorial records would have been practically lost, as their identification would have been next to impossible. I venture to assert that, even now, but few of the present inhabitants would recognise such pictures as, say, Nos 18, 19, 23, 24, 28, 32, 33, 36, 37, 46, 47, 48, 57, or 215 to 227, in my catalogue as representing once familiar objects in our town.

Towards the end of the eighteenth and the beginning of the nineteenth century, Southampton was noted chiefly for shipbuilding, and several frigates were built on the Itchen, and others on the Hamble and Bursledon Rivers, the proximity of the district to the New Forest, where the oak timber was grown, rendering these sites particularly suitable for the purpose. It also became famous as a seaside resort, and owed much of its prosperity to the patronage of the Duke of York. The Napoleonic Wars brought it into prominence as a port. The railway between London and Southampton was completed in May, 1840, and on the day the line was officially opened a train covered the distance in two hours and fifty minutes. The foundation stone of the docks was laid with Masonic honours in August, 1838, at a site west of that where the docks were afterwards built, though it has now been embraced by the dock extension. What was termed the last coping stone was laid just sixty years after—

August 12th, 1898—with a ceremony almost a repetition of that six decades before. An Act of 1803 contemplated docks and other improvements of the port, but nothing was done. The first steamer on our waterway plied in 1820, and in 1835 two small companies were stationed here, the South of England Steam Navigation Company and the Commercial Steam Packet Company. In 1838 only one steamer passed out of Southampton, the "Chieftain" of 600 tons, whereas we have now the huge vessels of the Union-Castle, Royal Mail Steam Packet, North German Lloyd, American Line, and other companies, some of nearly 15,000 tons burthen. In 1837 one solitary bag of ocean mails left the port; now the mails number thousands of bags a week.

The dock extension, now proceeding, contemplates another immense graving dock 700 feet long, and huge cold storage works (the latter constructed on concrete piles on what is known as the Hennebique system), affording 2½ million cubic feet of space.

The Royal Pier was opened by the late Queen, when Princess Victoria, in July, 1833, and, reconstructed and enlarged, was reopened by the Duke of Connaught in 1892. The Pavilion is capable of seating 1,200 persons.

The Harbour Board, apart from the docks, is steadily developing the port, and its revenue is gradually increasing. Further important works are in contemplation.

The population of the town at the census of 1891 was about 65,000, but, as has been said, it is now shown to be over 103,000. This, however, includes the areas of Shirley, Freemantle, and Bitterne Park, added under the extension scheme of a few years ago.

The depth of water at the extension quay is 33 feet at high water ordinary spring tides, and 20 feet at low water.

The town is the head-quarters of the Ordnance Survey Department.

The rise in value of properties in Southampton and the immediate neighbourhood has of late years been very marked, and although, as in most towns, many fluctuations have from time to time occurred, the success of the town and port now rests on so sound and substantial a basis as to justify the confident belief, not based on mere conjecture, that greater prosperity and expansion may confidently be looked for in the near future.

Mr. ALBERT BUCK (Fellow) said he had great pleasure in proposing a vote of thanks to Mr. Hill for his very interesting and valuable Paper. The Paper while short and concise, admirably fulfilled its object. He had always regarded Southampton as a place of great historic interest, and he found that its interest was even prehistoric, as was shown in Mr. Hill's Paper and by the specimens of ancient implements which he had exhibited. As the Members were about to visit many of the places of interest mentioned by Mr. Hill, he thought he should best consult their wishes by simply limiting his remarks to a vote of thanks to the author for the pains he had taken in getting together so much valuable and interesting information.

Mr W. J. REES (Fellow) said he had much pleasure in seconding the vote of thanks to Mr. Hill for his very interesting Paper. He had referred to so many matters of interest in the town that he feared time would not allow them all to be visited. The development of Southampton had certainly been very great, but in that expansion nature had helped more liberally, he thought, than in the case of the majority of other places.

The vote of thanks was then put and carried unanimously.

PAPER 266.
No. 428.

SECOND PAPER.

THE NEW FOREST.

By F. J. SMITH (Fellow).

INTRODUCTORY.

The New Forest readily suggests itself as a fitting topic for a Paper to be read on this occasion. Possibly to a few who know the Forest, my remarks may be tedious, if not uninteresting; but strangers to the Forest will, I trust, find the subject sufficiently interesting to command attention. However agreeable the task, it is an undertaking requiring much research and labour, and, having regard to its importance, extreme brevity in description is not attainable. In passing allow me to state that my experience of the Forest, although not very lengthy, yet approaches closely on twenty-five years, which affords ample time for observation and deduction when it follows and is supported by a life experience of British forestry.

GENERAL ASPECT.

To the critical eye of the scientific forester the general aspect of the Forest is somewhat disappointing. Much more is expected in the direction of scientific forestry than can, under existing circumstances, be attained. To an ordinary observer it is one of the most beautiful places on earth, presenting characteristics which cannot be equalled elsewhere. Its very antiquity gives it a beauty peculiar to itself. The ancient woods and wide stretches of undulating moorland, command panoramic views of a charming country, contiguous to, or interspersed with, the well-wooded estates of private owners; but the Forest itself is singularly destitute of those sheets of water which always impart a special beauty to woodland scenery. The open character of the Forest, and its ever-changing scenery, offer facilities of great variety for landscapes, over hill and dale or between the lawns and glades; but the woods taken by themselves are not so varied and picturesque, neither of the same uniform growth, nor so grand as those, for instance, of Windsor Forest and Parks, which have the distinct advantage of water in the foreground or distance. But the peculiar charm of the New Forest lies in its old naturally grown woods, its beeches, with gnarled trunks and many leaders; wide-spreading oaks, which *for the time being* retain their characteristic beauty, with the constantly changing colour of their surroundings, and of the numerous species of flora. These, together with the furze and heath of several varieties, form a round of change during spring, summer, and autumn, which it would be hard to equal elsewhere.

ANCIENT HISTORY.

Any reference to the early history of the New Forest must be somewhat limited by the scantiness of information at command; and the most diligent research only elicits conjectural matter neither very interesting nor profitable. It is, however, desirable to give some passing consideration to the subject in order to connect the past with the present, and, if possible, to suggest considerations for the future:—

That the New Forest existed in primeval times is without doubt; and it is believed to be the only relic in England of the pristine forest, where nature has been permitted to hold her own, unaided and undisturbed by the hand of man.

About the year A.D. 495 Cerdic, a Saxon, founder of the kingdom of the West Saxons, landed in Britain in the vicinity of the Forest, and in the year A.D. 508 gained a complete victory over the Britons at Cerdicesford, on the Avon, now known as Charford, near the north-west part of the Forest. From this remote age down to the Norman Conquest very little is known of the Forest; and the only indications of such human life as then and subsequently existed, are the few remains and landmarks of the inhabitants, who doubtless lived by the chase which they enjoyed in common. Here and there, in many directions, may be seen barrows and tumuli, some of which, on excavation, have been found to contain human remains, ashes, urns, and pottery; while many discoveries of wrought flints suggest the means of defence, and the weapons used in the chase. Moreover, several Roman kilns have been found, the pottery unearthed within or in close proximity to them showing unmistakeable appearance of Roman art.*

The localities of these potteries are between Fordingbridge and Stoney Cross, and are known as Amberwood, Sloden, Island Thorns, and Crockhill, the latter being pronounced, by the humbler class, as Crockle, an apparent contraction of Crock-kiln. The extent of the potteries indicates that they supplied the country within reach; and, in passing, it may be mentioned that a similar industry is now established on the other side of the River Avon, at Alderholt and Verwood, where corresponding beds of clay are found, and the ware is distributed over adjoining counties under the jocular appellation of "Verwood China." From these appearances it may be inferred that the New Forest was in early days, a district of some importance to Celt, Saxon and Roman.

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* Specimens are preserved in the Hartley College Museum, Southampton.

It is well known that this and similar Royal Forests existed long before the Conquest; but were not subject to forestal laws until these were introduced during the Conqueror's reign, and subsequently until the promulgation of the "Charta de Foresta" 9 Henry III. c. 2 * very properly described as "one of the two famous "Charters of English liberty." †

Within the period under consideration forestal laws were enforced in the New Forest with the utmost severity, penalties having been inflicted almost equal to the taking of the life of a man who destroyed a beast of the chase. In this connection it may be well to quote from Manwood's "Forest Laws" the following definition of a "Forest." "A certain territory of woody grounds "and pastures, privileged for wild beasts and fowls "of forest, chase, and warren to rest and abide in, "under the protection of the king for his pleasure and "recreation, with territories so privileged and meered "and bounded with unremoveable marks, meres, and "boundaries."‡ This definition was evidently applicable to forests generally, and the laws relating thereto applied only to forests, and to no other place. Forest laws therefore were special, also local, and peculiar to

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* Manwood, Appendix, p. 42.

† Blackstone, Vol. IV., p. 423.

‡ Manwood, p. 103.

the forest to which they applied, their object being mainly to maintain the Forest in its natural condition for the preservation of the vert, or woods, coverts and herbage, and the protection of the venison, in which term was included all the beasts of the forest. These laws have never been repealed, although their application is practically obsolete.

William the Conqueror, by depopulating, seizing and wasting the district, formed the New Forest in the year 1079, and to him must be ascribed the ignominy of afforestation, and, with it, the imposition of those fierce forestal laws, already referred to, which pressed so heavily on the inhabitants within and on the borders of the Forest.

Early writers on this subject do not convey any absolutely reliable information which can be accepted as describing the true state of things at that date. For instance, it has been stated that the Conqueror, in order to satisfy his passion for hunting, laid waste this large tract of country, destroyed villages and churches, and exterminated the inhabitants. But a painstaking historian writes: "The depopulation and misery occasioned "by the formation of the New Forest have been, perhaps, "somewhat overstated. A forest undoubtedly existed in "this district in the Saxon times; the Conqueror enlarged its circuit and gave it a fresh name." But even William of Jumieges, Chaplain to the Conqueror, admitted the devastation, and wrote that, for the extension of the Forest, William the King had destroyed many towns and churches within its circuit. This is all in keeping with the known ferocity of his disposition. Now the Forest was, at that period, known as Ytene or Ychene, which signifies "a wild, barren, uncultivated and woody tract of "country," and it is noteworthy, in confirmation, that many of the existing names of localities are handed down to us, such as Furzy Lawn, Broceste or Brockenhurst, also Lyndhurst, after Linden, the lime tree, Ashurst and Ashley, Island Thorns, Fritham Plain, Bushey Bratley, and many others, all of them indicating woods or wastes of some character.

That such land would be selected by the Conqueror is more than probable. Bearing as it did a wild and dense growth of wood, thorn, and thicket, furze and heath, it would be admirably adapted for the purpose required, and would afford on the one hand shelter and cover for the beasts of chase, and on the other hand, broken by intervening tracts of fine open country, it presented a splendid field for hunting. This tract was acquired on afforestation devoid of that devastation and destruction attributed to the Conqueror, and apparently without encroaching very largely on cultivated land which, from a geological point of view, could scarcely have existed to an extent capable of supporting such a number of inhabitants requiring so many villages and no less than "thirty-six churches," the foundations or ruins of which have never been discovered, notwithstanding the fact that a very large area of the Forest has since been broken up and planted, and ditches made, banks thrown up as fences, and railway cuttings and drainage carried out.

Moreover all woody and unproductive country was, in those bygone ages, very thinly populated, and the traditional number of the villages and churches seems therefore most improbable, although it may be suggested that country dwellings and churches in those days were very simple structures. Their mud walls and thatched roofs might well perish, leaving no trace after the lapse of nearly a thousand years.

The history of the New Forest during the reign of William I. is replete with doubt and covered in mystery. The chroniclers were monks, intensely bitter and prejudiced against the Conqueror, who had subjected them to forestal laws, and their story was repeated with exaggerations by later writers. The deaths of the Conqueror's sons and grandson were regarded as a "judgment" for his acts of depredation and devastation, his grandson Henry having lost his life by hanging from the branch of a tree when hunting. Richard, his second son, was also killed, by a pestilential blast, and his third son, William Rufus, was killed by the arrow of Sir Walter Tyrell, which was said to have glanced from a tree (this latter event having been predicted) and all occurred in the New Forest.

During the reigns of successive sovereigns, forestal laws were more or less vigorously enforced, although the cruel penalties for killing the king's deer were repealed and heavy fines substituted. History, however, shows that the severity of these laws provoked discontent and insurrection, which brought about a declaration of the rights of the Crown as distinct from those of the people, and regulations respecting the demesne lands of the Crown and those of the inhabitants within the Royal Forests, all of which were finally arranged by the Charta de Foresta.

A perambulation of the Forest was made in the reign of Edward I., when further regulations were enacted affecting the proceedings of the Forest Courts of Swainmote and the election of Verderers by the freeholders. These regulations seem to have remained in force for many years, although offences on the part of both Forest Officers and those intent on killing the deer, were not uncommon.

This state of things continued until the reign of Charles I., who endeavoured to revive the old customs; but since that time forest laws have not been enforced in any oppressive manner, and, as has been stated, they are now practically obsolete. The Court of Swainmote is, however, still in existence, and is held in the Verderer's Hall, King's House, Lyndhurst.

PHYSICAL FEATURES.

The climate of the New Forest and district is equable and mild; in July the mean temperature is 62·50 and in January 40·50. Southampton is warmer in winter than Bournemouth. The average annual rainfall gauged on all sides of the Forest is 32 inches. The autumnal season is unusually long, the month of November being frequently very pleasant, and the sylvan beauty of the country remains tinged with the golden leaf of trees and bracken until the first cold blast of December hastens their fall. The end of March is the turning month of winter and the commencement of early spring. The mild climate may be attributed to shelter from the cold winds of winter by the growth of forest trees.

No rivers of importance rise or flow within the confines of the Forest. Beaulieu River, which rises near Lyndhurst, is more in the nature of a stream until it divides the Manors of Beaulieu and Exbury, where it becomes tidal. It was at one time famous for ship building at Bucklershard, in the vicinity of which iron smelting was also carried on. Lymington River receives the rainfall of practically the whole of the south-west portion of the Forest, being fed by numerous streams, the largest of which are Highland Water and Black-water running east and south, combining as they approach the village of Brockenhurst, through Boldre, where the water forms a small river, the estuary being at the little port of Lymington. Further to the north of the Forest all the streams, the largest of which are known as Latchmore Brook, Dockens and Linford Waters, run to the west and join the River Avon in its course between Fordingbridge and Ringwood. These main streams are fed by minor brooks or streamlets, which take the contour of the ground in the direction stated. In summer many of them are dry. After a period of drought the nature of the soil is such that some time must elapse before the condition of saturation is sufficient to admit of those streams acting as the arterial drainers of surrounding country, while a continuous rainfall, immediately after saturation has been reached, causes those streams quickly to rise in flood and to throw up obstructing beds of gravel, and even to alter their course, doing great damage and sweeping away everything before them, so strong is the current in various places. Judicious planting of the Forest would go far to prevent both drought and flood.

The vegetable and mineral matter carried away in suspension at times of flood are not so beneficial to the lower lands, from an agricultural point of view, as that coming from the various streams running through and over the chalk formation, the alluvial deposit of which, and not what is brought down with the water from the Forest, is the secret of the fertility of the Avon Valley. The hydrographical features of the Forest may therefore be considered as due to its configuration, declining mostly to the south and west towards the river basins and the sea, and on the whole presenting a fairly well watered tract of country, with an occasional deceptive bog, such as, if unknown, is apt to prove inconvenient to hunters and pedestrians.

As regards Hydrogeological considerations, the water below the surface is not, as a rule, to be depended upon for its purity, owing to a variety of causes due to soil formation, and the many peculiarities of strata through which some of the wells are sunk. There are, however exceptions; one of which may be found at Hill Top, where there is a spring which formerly provided water to the monks at Beaulieu Abbey, as it does now to Palace House, the seat of Baron Montague of Beaulieu.

The prevailing winds and rains are south-west. This is indicated by the direction of the seedling Scotch firs growing on the north-east of the many clumps of old Scotch firs standing in the open parts of the Forest, which would be more manifest if free from the bite of cattle, and not also occasionally destroyed by forest fires.

The Botany of the New Forest is unique, owing to the great variety of soils, and comprises specimens equally varied and often very rare. Each district seems to have its own peculiar herb or flower, luxuriating in either sand, gravel, loam, clay, peat, or bog earth. Several hundreds of different kinds of wild flowers may be gathered within the Forest. Of ferns and grasses, furze and heath, there are an abundance contrasting strangely but effectually in green, gold, red, and purple, of various tints. As in the case of Botany, so with Entomology, the New Forest covers an area thick with examples of various species; treasures to collectors and amateurs. Here may be found numerous varieties of dipterous insects in swarms, and gnats and mosquitos with neuroptera or dragon flies abound. The coleoptera embrace beetles of all kinds, and the lepidoptera include butterflies and moths, in addition to many other species. The two latter classes afford for those engaged in forestry a special study which may be profitably conducted in the New Forest. Mention may briefly be made of the cockchafers, which, in the beetle state, eat the leaves of oak, elm, and other trees and, as grubs, destroy the roots of plants. The grub of the stag beetle and his partner is known to live many years in the solid wood of trees, and the grub of the small stag beetle inhabits the old ash of the Forest. The pine beetles, with their destructive workings under the bark propogate their species in large numbers, and afterwards, they frequently do much damage in young fir plantations by boring into the pith of young shoots and tops of trees. The pine weevil, *Hylobius abietis*, is the cause of much devastation to the Scotch fir plantations in the Forest. Another destructive insect is the pine sawfly, *Lophyrus pini*, the caterpillars of which do great damage by clearing the needles of pines with marvellous rapidity. There are also several kinds of moths, usually on the wing during early evening and night, depositing their eggs on some particular tree, notably the leaf-rolling caterpillar of a little moth, *Tostrix viridana*, which in some seasons, works great havoc on the oak. I have seen several acres of oak in the Forest swarmed with these little caterpillars doing great destruction. The caterpillars of the goat moth play havoc on oak, elm, and other trees by workings of a tunnel-shape in the solid wood, where they remain for three years, frequently killing the tree. Great as are the facilities of the New Forest in this direction of study, it is strange that so little attention is paid to it.

The ornithology of the Forest is equally interesting; and, if time permitted, much on this and the preceding subjects touching physical characteristics might be mentioned with advantage. The Forest is essentially the home of wild birds.

The extensive old woods and new plantations, close thickets and open moors, the streams and bogs afford every conceivable habitat for feathered creatures that love seclusion. The common buzzard is a resident, also the sparrow-hawk and kestrel. Owls of every kind known in England frequent the Forest; and to the stranger their piercing screech is not very pleasant hearing in the wilds of the Forest at night. The woodcock and snipe, and occasionally the black-cock may be found, but these are becoming scarcer as forest licenses to shoot have been increased.

The whole place teems with life of small birds, and it is a pity they are not better preserved, if only because of their insectivorous nature. Among them may be mentioned the common green and lesser spotted woodpeckers—the latter having a red crown—the great black woodpecker (also with red crown) and the greater spotted woodpecker, both of which are only occasionally seen, also the nut hatches and common tree creepers, which frequent the old woods (sure precursors of natural decay, or decease of those woods which provide them with daily food), whilst they creep about and hunt the newer plantations for external vermin upon the leaves and bark of trees.

The march of civilisation has wrought a great change in the animal life of the Forest. Not so very long ago the wild boar was in existence, and in recent times a breed of pigs peculiar to the Forest was known, doubtless descendants of those that ran wild. The deer have been removed by Act of Parliament, but a few remain, providing sport, and there are foxes sufficient for a pack of hounds. Badgers breed here, and the otter frequents the streams, affording an occasional hunt.

The cow stock is hardly worthy of mention. They are mostly cross-bred, turned in by right of common of pasture, and bear the significant name of foresters or heath-croppers. If they can exist here they will certainly do well elsewhere, and after having borne the test of forest keep they command a ready market under favourable conditions.

The Forest ponies deserve more attention. They were at one time much sought after for many purposes, and may still be seen in droves of mares and colts. They are generally small in size, with good bone and action, hard, and possessing wonderful staying power, either for riding or harness. In view of their hardihood, constitution, and bone, the War Office would do well to encourage the breed. Efforts have been made by the verderers and private residents of the Forest to improve the breed, with satisfactory results.

GEOLOGICAL ASPECT.

Those who have experience in the growth and management of woodlands and timber will readily admit that geology and the classification of soils are important points, which determine the kinds and quality of the wood or timber which add beauty, character, and effect to the scenery. This is to be borne in mind by the forester or land-agent desirous of attaining an effective and beautiful landscape.

Practically the whole of the Forest is on the formation known as the oligocene, comprising Hempstead, Bembridge, Osborne, and Headon beds ; and the eocene divided into upper and middle, including the Barton, Bracklesham, and Bagshot beds. Of the formation known as lower eocene very little touches the Forest, and that only on the north at Godshill, near Fordingbridge. In the eocene period the tract of land now covered by the Forest was washed by the rolling waves of an inland sea as far as the chalk hills of Wiltshire on the north, and under the perpetual process of disintegration the chalk crumbled, and the flints and stones were ground up, thus forming soils of great diversity, as well as that produced by the effects of volcanic action. This is visibly apparent on a comparison of the Barton Cliffs, with beds having an easterly dip of about 1 in 100, and the almost vertical position of the flint layers in the chalk of the Isle of Wight, in the vicinity of Alum Bay and the Needles, which afford in both places grand hunting ground for the geologist, and show the violence of the disruption which separated the island from the mainland during prehistoric ages, although tradition has it that one Sir Bevis, of Southampton, waded across the channel, and that at low water, when the bed of the Solent was left dry, the Binstead stone was brought over from the Isle of Wight for building Beaulieu Abbey.

It would appear by levels that have been taken that the depression has continued for very many years, finally permitting the largest shipping in the world to pass safely through at low water. The tide, however, ebbs and flows very fast through the narrow Solent, indicating want of depth and space for the great volume of water to rise and recede; one of the reasons for the unusual length of time of high water at the Port of Southampton.

To return to the geology of the Forest. Apart from the cliffs of Barton and Hordle, where the sea keeps the different strata exposed to view, and where the upper and middle eocene can be best observed, there is little to interest the geologist as such; but geology nevertheless shows that the Forest was at one time covered by water, numerous typical shells and fossil beds having been discovered in various parts, either below or near the surface, the abundance of marine deposit affording evidence beyond dispute that rolling waves exerted a wonderful influence on the formation and character of the soil of the Forest. At Brook, where the Bracklesham beds crop up, eocene fossils have been discovered in abundance, many very fine specimens having been collected. On examining the cliffs at Barton and Hordle, south of the Forest, there are exposed to view, in laminated series from the present seashore upwards, fully 72 feet of grey sand, light blue and green clay, and a bluish marl shaded to light grey due to colorific agency of comminuted shelly matter and fully 15 feet deep (this marl crops out in certain parts of the Forest, and is used for marling the land, for which rights to dig and remove are exercised); also lignite and ligneous beds; and at the surface about 20 feet of ferruginous flint gravel, with sand interstratified. There are in addition thin beds of coprolite, full of organic remains, and a fossil bed sandwiched between the thicker layers. These beds dip to the east with a fall of 5 degrees; to the west the fall is even less, the beds being almost horizontal. With such a diversity of geological formation within a comparatively small depth of less than 100 feet, and spreading north-east over a tract of undulating surface like the Forest, and rising to a height of 420 feet above sea-level, one may reasonably look for, and indeed find, a great variety of soils, ranging from stiff retentive clays to sterile sands, and the various qualities of the land, occurring where the particular geological formation crops out, showing clays, marls, sands, and gravels distributed over a widely extended surface, or underlying drift gravel. Within few similar areas can be found such a variety of soils, or any more deceptive from surface appearance, as compared with the subsoil. Conditions such as these give to the Forest those characteristic features so noticeable to the most ordinary observer, and fixed in ancient times the localities of those natural woods which have retained their primitive appearance to this day, and where, moreover, the woods enclosed and planted under various Acts of Parliament, have *to some extent* been set out *with more or less success.* Of the open heath or moorland, which has been in existence since the sea receded, there is a wide area of very little value.

With such a wide area and great diversity of soil, some wet and retentive, some naturally dry or porous, and some positively arid, an expert forester will expect to find a corresponding variety of timber and trees, practically in accordance with the class of soil to which those trees are known to be adapted, or on which they are of indigeneous growth. Oak and beech are the dominant features of the old woods; oak and Scotch fir of the new inclosures. Nature, with unerring selection of soil, determined the kind of timber found in the former, whilst man selected the sites of the new inclosures. Hence the kind of trees grown in these is not always with the same success. Having regard to the peculiar characteristics of soil, and subsoil, in conjunction with climatic conditions, I venture to submit that a better choice might have been made in the sites and shape of some of the plantations, and a greater variety of trees planted, consistent with their natural predilections and susceptibilities to conditions pointed out. The effect on the aspect of those plantations would have been much more picturesque, and beautified the Forest more than the present formal blocks of sombre Scotch fir.

In this connexion, experience has proved that a geological survey of a surface such as the Forest, is no sure indication of "Oak land" when the subsoil is altogether different in character, and constituents; and further the result of the planting and growth of the trees show that all the good land was not taken to from those inclosures.

MODERN HISTORY.

The New Forest, as it existed in the time of Charles II., contained about 92,365 acres within a perambulation referred to in a Report made by Commissioners under an Act of Geo. III. c. 87. The boundaries then extended from Godshill on the north-west to Southampton Water on the south-east, and from Hardley on the east to Ringwood on the west; there being within those boundaries about 27,628 acres of land held by private owners, and about 2,193 acres belonging to the Crown as domain land free from forest rights.

Subsequent to the date of the Report referred to, the Commissioners of Woods and Forests had sold, under certain statutory powers, about 1,103 acres, either privately or for railways, which reduced the area of the Forest to about 63,000 acres, comprising about 30,000 acres of heath land of the value of one shilling and sixpence per acre, and about 33,000 acres of better and best land valued at from five to ten shillings per acre, per annum, according to the evidence of the late Mr. John

Clutton, given before a Committee of the House of Commons in 1849, and indorsed in 1875 by Mr. E. Pitts Squarey, who divided the lands into 18,660 acres at ten shillings per acre, 15,000 acres at five shillings per acre, and 30,084 acres at one shilling and sixpence per acre, equal to an annual value of £15,336 6s. 0d., or an average rental value of four shillings and ninepence per acre.

It appears that during the year 1698 the whole of the 63,000 acres was open and uninclosed, but by 9 & 10 Will. III. c. 36 the Crown had the power to inclose within a period of twenty-two years 6,000 acres of the waste of the Forest as a nursery for wood and timber; and when the wood or timber in any part so inclosed was out of danger from the feeding of deer or cattle, such part might be thrown open to the Forest, and an equal area of any part of the remainder of the waste land could be inclosed in lieu thereof, and that such inclosures were free from common rights during the time of inclosure. It was further provided that such inclosures should be selected in places where most adapted for the production of timber for the future benefit of the kingdom, and such as could be best spared from the commoners and highways of the country. Under the Act of Will. III. the Crown was obliged to select and inclose such land as was adapted for the growth of oak for the navy.

The Act of George III. c. 72, passed in the year 1808, enabled the Crown to continue to inclose, regardless of the limitation of time allowed by the Act of Will. III. This was followed at a later period by the Deer Removal Act, 1851, 14 & 15 Vic. c. 76, which authorised the Crown to inclose out of the waste lands of the Forest, and plant with any kinds of trees, an area not exceeding 10,000 acres, in addition to the 6,000 acres authorised by the previous act, and that not more than 16,000 acres should be inclosed at any one time. Similarly the inclosures had to be set out and arranged with a view to convenience, and as best adapted for the growth of timber. It was provided that when the Crown was satisfied that the woods and trees grown within those inclosures, or parts thereof, were out of danger from cattle feeding, or other prejudice, then such parts should be thrown open to the Forest, and in lieu thereof, and as often as parts were thrown out, the Crown had the power to inclose equal areas out of any of the remainder of the waste lands of the Forest for similar purposes, provided that, under either of the three Acts referred to, no inclosure should be less than 300 acres in extent. This limitation was intended to prevent the inclosing of all good land and none of the bad.

Apparently, therefore, the Crown had rolling powers to inclose the whole of the waste lands for the purpose of planting trees, but counsel on behalf of the Commoners gave it as his opinion that no such construction could be placed on the Acts, and that the rolling power extended to two plantings only. The law officers of the Crown did not, however, concur with that opinion. Be that as it may, it is quite clear the Crown had power to inclose and plant 32,000 acres at the least, equal to about one-half of the open Forest.

Touching the question of rolling powers, it may be stated that the Commissioners appointed under the Act of 26 Geo. III. in their fifth report of the Act of Will. III. used these words: "By the Act Will. III., ch. 36, "the Crown was empowered to inclose 6,000 and keep "6,000 acres constantly inclosed as a nursery for timber," and, by the same, Commissioners should be "empowered "to direct the proportion so ascertained to be inclosed in

" addition to the 6,000 acres before mentioned, and on " the same conditions of throwing open any part of the " inclosures when the trees within the same are past " danger of being hurt by cattle, and inclosing in lieu " thereof an equal quantity out of the open part of the " said 57,845 acres, and those new inclosures to be made " under the same conditions, and to go on in constant " rotation in the manner directed by the Act 9 & 10 " Will. III. with respect to the lands thereby authorised " to be inclosed." The opinion of the Commissioners therefore was that the power under the Act of Will. III. was a rolling power *toties quoties.*

On the other hand the opinion of Counsel on behalf of the commoners with reference to the New Forest Inclosure Acts is as follows:

"1. I am of opinion that the power of the Crown " under the Act of Will. III. to lay open inclosures, and " to inclose other lands in lieu of the inclosures so laid " open, could not be exercised to an unlimited extent, " but was limited to 12,000 acres in the whole; and that " as soon as 12,000 acres shall have been once inclosed " the powers of the Crown under that Act cease."

" 2. I am of opinion that the Act 48 Geo. III. does " not in any way amplify the powers of the Crown to " inclose as to area."

" 3. I am of opinion that the Deer Removal Act does " not, in any way, amplify the powers of the Crown to " inclose further than to add 10,000 more acres to " the 6,000 acres subjected to inclosure by the former " Acts, with a similar limited power of laying open the " 10,000 acres and inclosing other 10,000 acres in lieu " thereof."

" 4. I am of opinion that the Crown cannot, under " the provisions of the three Acts referred to, or any of "them, inclose more than 32,000 acres in the whole "from the wastes of the Forest."

Returns[*] are available showing the extent of the inclosures made and thrown open under the respective Acts quoted, viz.:

	A.	R.	P.
Under 9 & 10 Will. III. c. 36 and 48 Geo. III. c. 72	12,416	3	7
And under Deer Removal Act ...	5,036	1	16
Giving a total area inclosed under the three Acts of	17,453	0	23

or 14,547 acres *less* than authorised by the Acts referred to, adopting the minimum quantity based on the opinion of Counsel employed by the commoners, or, if we take the Deer Removal Act by itself, then the Crown has inclosed 14,960 acres less than authorised by that Act.

Of the 17,453 acres inclosed, about 6,198 acres have been thrown out to the open Forest, and again subjected to forest rights, to which may be added the ancient natural woods estimated at about 4,600 acres. The figures also show that the Crown enjoys only *half* the compensation awarded under the Act of 1851, irrespective of the prospective right given to the Crown of making other plantations from time to time in the event of those which had been previously made being thrown open, notwithstanding the fact that this was practically an award, by way of compensation, for the extinguishment of the right to keep an unlimited stock of deer, and in favour of the commoners, who have, as a result of subsequent legislation, enjoyed more than was contemplated by the Act of 1851.

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[*] See Appendix.

The soil of the Forest, including the plantations made under the Acts referred to, is vested in the Crown by the Act 10 Geo. IV. c. 50; and the whole area, except the fenced inclosures, is subject to forest rights of common of pasture, pannage, turbary, estovers, and digging of marl, which will be considered presently.

The rights of the Crown are paramount, and inasmuch as the Forest is really in the charge of the Office of Woods, the revenues whereof go for Exchequer purposes, they are undoubtedly the rights of the public; and, if such rights be enforced, it is for the benefit of the nation, and not for the Crown *per se*; and all such rights of the nation should be preserved against claims of owners who, having local or private interests, should not interfere with public rights.

There is no reliable evidence as to the origin of the rights of common of pasture, pannage, and turbary, but having regard to the depredations and damage done by the deer to the property of private owners in and adjoining the Forest, it may be taken for granted that a considerable number of those rights were created or allowed in consideration of the trespass of the deer, and that the commoners, then known as such, were allowed to have rights of common over the wastes of the Forest by way of compensation for the damage.

It may also be reasonably inferred that rights of common of pasture, turbury, and pannage existed by long uninterrupted usage, or were granted by reason of vicinage or residence to the inhabitants of the Forest, to whom the King on afforestation confirmed or gave those rights, or, secondly, to those who had rights of common of pasture appurtenant to their lands, not within the boundaries of the Forest, which had been in existence and exercised by them before the afforestation. It follows that there are two classes of lands to which those rights belong: first, those lands which were subject to rights of common before afforestation; and, secondly, those lands which originally had no forest rights. With regard to the second class it is manifest that the owners received those rights on afforestation and not previously, and that the forest rights of either class were exerciseable during six months of the year only.

Moreover there are two classes of landowners having lands to which rights are attached by reason of the owners being resident within the Forest, and those possessed of lands which previous to afforestation had no rights at all, and it is also clear the latter acquired those rights when the Forest was proclaimed.

Land that was previously without commonable rights became commonable when the Forest was afforested, in return for the damage done by the deer.

Therefore on disafforestation (which practically took place under the Deer Removal Act, 1851) those lands returned to their original condition; and the rights thereto attached should, as a natural consequence, have come to an end, but were as a matter of fact legalised and maintained as against the public by the Act of 1851; a subject on which further comment will be made later.

The rights referred to were directed to be defined and settled by three Commissioners, under the 14 & 15 Vic. c. 76, known as the Deer Removal Act, and a subsequent Act 17 & 18 Vict. c. 49, which changed the mode of procedure and included a clause omitted from the first Act of 1851, which is of importance, inasmuch as it is provided that "all common of pasture, "pannage, or turbary proved to the satisfaction of the "Commissioners to have been enjoyed since 1800 were

" to be allowed by the Commissioners," or if user were proved for fifty-four years the rights were to be allowed, notwithstanding any question whether those rights could be maintained at law or not.

The Commissioners made their award in November, 1857, with the following declaration, " that each allowance of any right is made subject to, and that the " same is to be exercised and enjoyed according to, the " law and assize of the said Forest, and that in all " cases where a right is allowed subject to a payment, " such payment is to be made to our Lady the Queen, " and that every right of common of pasture may be " exercised and enjoyed at all times of the year, except " during the fence month, that is to say, the 20th " day of June to the 20th day of July yearly, and the " time of winter heyning, that is to say, the 20th day " of November to the 4th day of May yearly, " during which times we declare there is no right in " all the uninclosed waste lands of our Lady the Queen " within the said Forest for all their commonable cattle " levant and couchant in and upon the lands in respect " of which the allowance is made. And we do hereby " declare that common of pasture for sheep is allowed " only in cases where it is expressly mentioned. And " we do hereby also declare that every right of common " of mast is to be exercised only in time of pannage, " that is to say on and from the 25th day of September " up to and on the 22nd day of November yearly in " all the open and uninclosed woods and woody lands " of our Lady the Queen in the said Forest for all " their hogs and pigs ringed levant and couchant in " and upon the lands in respect of which the allowance " is made upon payment, unless otherwise expressed, " yearly to or for the use of our Lady the Queen for "every hog or pig exceeding the age of one year "4d., for every hog or pig under that age 2d. And "we do hereby also declare that every allowance of "turbary is of the liberty of having, digging, cutting, "and taking turf in and upon the open wastes of "our Lady the Queen within the said Forest by the "view and allowance of the foresters of the said "Forest, and of carrying away the same turf from the "said places to and into the messuages mentioned and "described in this our register for the necessary fuel of "the said messuages to be therein burnt and expended. "And that every allowance of fuel and wood is an "allowance of the quantity described of good fuel wood "yearly, from the open and uninclosed parts of the said "Forest by the view and allowance of the foresters of "the said Forest as reasonable and necessary estovers "for the necessary firewood of the messuages mentioned "and described in this our register to be burnt and "expended therein. And we do hereby also declare "that every allowance of a claim of marl is of a right "to have, dig, take, and carry away from the opened "and accustomed marl pits in the said Forest, a schedule "whereof is set forth at the end of this register, by the "view and allowance of the foresters of the said Forest, "sufficient marl for the necessary marling of the lands "in respect whereof the said marl is allotted and "adjudged to be exclusively used thereon. And we do "hereby also declare that, save as aforesaid, no payment "or render is to be made to Her Majesty or Her "successors in respect of any of the said rights or in "respect of the allowance thereof, except such as is "herein mentioned."

This extract from the Award of the Commissioners is a clear exposition of the rights appertaining to the

Forest stated in detail in the Register of Claims, and, taken together, these show the right or rights attached to the respective holdings, and the manner and date of their exercise; in particular that common of pasture was only for six months during a year. There is no distinction between a large or a small holding as regards common of pasture. The right is exercised over the whole of the uninclosed Forest, and it will be observed sheep are not commonable except where expressly stated.

The total extent of land entitled to right of common of pasture under the limitations stated has been estimated at not less than 65,000 acres, of which two-thirds are situated *outside the Forest,* and the Register of Claims shows that there are 207 commoners who own from one to four acres, 126 from four to ten acres, 51 from twelve to twenty acres, and 44 from twenty to thirty acres. There are in addition to these small holdings, several large landed estates, involving many rights of considerable pecuniary interest, one of which represents one-eighth of the whole of the common rights of pasture. Among them may be mentioned an estate of 8,762 acres, or thereabouts, with rights of common for 170 houses; and other estates of 4,374, 4,135, 4,127, 3,807, 2,648, 2,502, 2,063, and 1,621 acres, and several others. The rights attached may be exercised by owner or occupier.

The right of turbary is enjoyed by the occupants of about 1,500 houses or cottages and consists of cutting heath and turf to be burnt on the premises of the persons exercising the right, and extends to about 4,000 turves for each cottage. Thus if the whole of those rights were exercised as many as 6,000,000 turves would be cut yearly. The system adopted in cutting turves is to "cut "one and leave two," each turf being about one foot in diameter or side, and from one to two inches thick. The space from which the turf is cut will renew itself with fresh growing heath in a year or two, but it takes some time to form the same fibrous turf of the same thickness.

Of estovers or rights of fuel the Register of Claims allows for 878 cords of wood. This quantity has of late years been reduced owing to several messuages having become uninhabitable, and from other causes. The total quantity of fuel does not now exceed 367 cords of wood per annum. To satisfy these claims a large number of trees have been cut in addition to windfalls; and not infrequently young growing trees have had to be sacrificed in order to "preserve" those in the old woods that are past their prime and well on the road to decay. The practice is, however, to take those trees that are least ornamental and most decayed. It should be stated that fuel rights can only be satisfied from timber in the ancient woods, and not from the modern enclosures; but so far as is possible of late years these have been satisfied by recourse to the thinnings of the new plantations in order to spare the ornamental timber.

The rights of the Crown being paramount, it was entitled to enforce forestal laws over the waste land of the Forest. Those laws had reference to the protection of the deer, and the preservation of vert or herbage of the Forest for their use; but on the passing of the Deer Removal Act it was provided that within two years all the deer within the Forest were to be removed, and the right to keep deer ceased; all other rights of the Crown under forestal laws or otherwise having been left intact.

Adverting to the suggestion that the rights acquired by the commoners on afforestation, by way of compensation for damage done by the deer, were practically extinguished—on the passing of the Act of 1851 by the removal of the cause of the damage when disafforestation had virtually taken place—the Act, instead of cancelling those rights perpetuated them, including the rights allowed on afforestation, but not in existence or enjoyed prior to that date.

The Crown, and therefore the public, in return for the creation of rights in perpetuity, were to be compensated, and in passing it is opportune to note that the perpetual rights thus secured considerably enhanced the value of the holdings to which they are attached. We shall see whether the public actually received the compensation referred to, and whether the commoners had secured to them the benefits conferred by the Deer Removal Act, strictly in accordance with the provisions.

By disafforestation and the removal of the deer a great beneficial advantage was gained by the resident and neighbouring landowners in freedom from the ravages of the deer, which enhanced the letting and selling value of their estates.

Without dilating on the tedious detail preceding the passing of the Act of 1851 it is necessary to repeat that the Crown, on relinquishing the right to keep an unlimited stock of deer in the Forest, was compensated by that Act and authorised to enclose 10,000 acres of the best land adapted for the growth of trees; and it has been stated that, inasmuch as an unlimited stock of deer might have been kept by the Crown before the Act of 1851, which would in effect have considerably reduced the value of the pasturage to the commoners, the latter had no ground of complaint against the operation of the Act. It has also been stated on good authority that the compensation for the extinguishment of the right to keep deer was very inadequate.

It is, however, obvious that the Crown could not have had a stock of deer above that restricted by nature and the limited food supply during the summer when the Forest could not be cleared of the commoners' stock, still less in winter with reduced food, notwithstanding fence month and winter heyning when the Forest might have been cleared of all stock except the deer.

It was not until the year 1855 that a Commission was appointed under the Act of 1851 for the purpose of setting out the inclosures authorised by the Act. In that year the Commission, known as the New Forest Inclosure Commissioners, was issued to set out and approve inclosures to the extent of 10,000 acres, all of which were selected by the Commission. The constitution of that Commission included those who had common rights in the Forest, with two exceptions, namely, the Commissioner of Woods and the deputy surveyor of the Forest, so that the commoners were represented by a large majority.

At the first meeting, held on March 1st, 1866, inclosures making up the 10,000 acres authorised were approved and directed to be set out and inclosed. No objections were raised either in respect to the extent of those inclosures or their situations, except that as a *sine qua non* any quantity inclosed within the limit authorised by Parliament should be planted with trees. At a subsequent meeting of the Commission, held on October 11th, 1866, the matter of the inclosures formerly agreed to was re-opened, with the result that only one of them —Deer Leap—was finally approved, set out, and made in anything like the form in which it was originally settled, and it would appear that the configuration, appearance, immediate or ultimate effect, consideration of prevailing winds, and conditions affecting general adaptability for the growth of timber and profitable results, and objects of public interest, have more or less been subordinate to the interests of the commoners, and of the 10,000 acres so approved only 5,036 a. 1 r. 16 p. have been made and planted, subject to alterations referred to.

That the commoners were fully represented on the Inclosure Commission is manifest. Indeed their interests were evidently paramount, and objections to inclosures had to be considered very carefully by the Commission which included the Crown officers. Sites were changed —the change including bad land—boundaries altered, areas reduced, and concessions made in order to satisfy those objections. Moreover, a resolution was passed at a meeting of the Commission held on June 25th, 1867, to the effect that public notice should be given of any proposed inclosure.

This was the prelude to more serious opposition against the Crown and its undoubted right to inclose, under statutory powers, certain parts of the Forest, which, under proper and skilled management combined with careful selection of sites and kinds of trees, would have enhanced the beauty of the Forest without detriment to the interests of the commoners or the public. The Commissioners held another meeting on August 9th, 1870, when objection was made against any further inclosure under the Deer Removal Act by reason of the Crown having, it was alleged, taken in 2,000 acres more than was authorised by the Act of William III., that is by disregarding the rolling powers. But the Commissioners were then of opinion that any question affecting the operation of the Act of William III. was not within the province of the Commission appointed under the Act of 1851; neither were they called upon to question the proceedings of a former Commission appointed under a previous Act. Notwithstanding this, the opposition to the inclosures sanctioned by the Act of 1851 influenced the Commissioners, who were mostly commoners, and who, if not wholly opposed to carrying out the intention of the Act, at a subsequent meeting held on September 14th, 1870, passed a resolution, the effect of which was to absolutely prevent the Crown from making any further inclosures, or inclosing what had already been approved by the New Forest Inclosure Commissioners.

It should be borne in mind that the Deer Removal Act was a ratification of an Agreement between the Crown and the commoners after full investigation by a a Select Committee. The Crown officials were manifestly desirous to carry out the provisions of the Act in strict conformity with its directions, and to abide by the settlement effected by that Act; but apparently the commoners were determined to obstruct its operation, and to make the paramount rights of the Crown (and therefore of the public) subservient to their own.

The Office of Woods, on behalf of the Crown, as representing the public, contended that they had a right to inclose under the Act of William III. the best land fit for growing oak; and under the Act of 1851 they were entitled to land best adapted for timber and trees; while the commoners held that the Commission appointed by the Act of 1851 had been subservient to the Office of Woods, by whose direction the inclosures were practically set out on paper; and the Commission approved of them without regarding the powers to set out inclosures fit for the growth of other trees in addition to oak. In this connection it has been asserted that the Crown had but one object in view, viz.: to "to destroy the value of "the common rights"; and if this were so those commoners, who were also Commissioners, evidently knew how to take care of themselves.

It cannot, however, be denied that the Crown had the power under the Act of 1851 to inclose 10,000 acres (with rolling powers under conditions stated) as compensation for the removal of the deer, and, therefore, the pre-existing rights of the commoners must necessarily have been exercised over an area diminished by such inclosures, although that reduced area was of increased value to the commoners by the improved feed for their stock consequent on the removal of the deer. Neither can it be denied that in selecting inclosures adapted for the growth of oak and other trees, much of the good land had to be taken in conformity with the Acts providing for such inclosures, and to some unavoidable extent detrimental to the interests of the commoners. Otherwise the planting of the Forest in the manner laid down by the Acts would have been a complete failure.

As regards the "rolling power" allowed by the Act of 1851, there was, in my opinion, very little ground for alarm on the part of the commoners, inasmuch as it was at best a remote contingency, and not likely to have been put in force, when none other but land suitable for timber could be inclosed, and then only with the sanction of the Inclosure Commissioners. In support of this opinion I may state that the late Mr. John Clutton considered 30,000 acres of the whole Forest too poor to plant with profit; and under the conditions of the Acts relating to planting, how could the Crown inclose land unsuitable for planting, when no planting could take place unless the Commissioners approved of the site and boundaries of the proposed inclosure?

It has been pointed out that, of the 10,000 acres originally approved by the New Forest Inclosure Commissioners, only 5,036 a. 1 r. 16 p. was actually inclosed; and although the Crown had obtained authority, first by the Act of 1851, and secondly by the sanction of the Commissioners, the power to inclose or complete those sites already approved was suspended by the operation of the House of Commons on the 20th June, 1871, when the following resolution was passed:—

"That in the opinion of this House, pending Legis-
"lation on the New Forest, no felling of ornamental
"timber, and no fresh inclosures, should be permitted
"in the New Forest, and that no timber whatever
"should be cut, except for the purpose of thinning the
"young plantations, executing necessary repairs in the
"Forest, and satisfying the fuel rights of the commoners."

The effect of this resolution brought all matters affecting improvements in directions previously conferred by statute to a standstill. Planting was absolutely stopped· Scarcely a tree could be cut without impeachment; some hundreds of labourers were suddenly thrown out of employment; and a general migration of the population of villages within and bordering the Forest very soon commenced. This state of stagnation continued until the New Forest Act 1877 became law, and considerably modified the general management, and I may add, the maintenance of the Forest. Meanwhile, a Select Committee of the House of Commons was appointed to enquire into and report upon the present condition of affairs in the New Forest, into the operation of the Deer Removal Act 1851, and particularly into the exercise and effect of the powers of inclosure given by that Act. The report of this committee was dated July 16, 1875.* Previous to this, various petitions were presented from persons entitled to exercise common rights, and residents within the Forest, from inhabitants of Southampton and neighbouring towns, and also from artists and literary men, entomologists, and men of science; but so far, there was nothing expressing the practical and independent opinions of land agents and foresters, nor any representation of the interests of the public at large, as apart from those of a purely local character.

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* See Appendix.

THE GENERAL POLICY OF THE CROWN.

As has been stated, the Crown had, under the Act 9 & 10 Will. III., the power to inclose 6,000 acres as a nursery for oak timber for supplying the navy, and under the Deer Removal Act, to inclose an additional 10,000 acres, and to plant with oak and other trees, having rolling powers incorporated in each of those Acts. Under the former Act the Crown had an undoubted right to inclose the best land fit for growing oak for the public service and for the defence of the realm; and under the latter Act, such land as was adapted, not only for oak, but for other trees, with the limitation that no inclosure should be less than 300 acres, thus insuring that good and inferior land should both be included; in either case for the specific purpose of growing timber and trees. Further, the Inclosure Commissioners, the majority of whom were commoners, had the power to set out, alter, or reject any inclosure. As has been shown, they exercised those powers in an arbitrary manner, and finally refused to sanction any further inclosure; rightly or wrongly I am not prepared to say, but unquestionably influenced by a preponderance of feeling or regard for their forest rights, as against the Crown and the public.

Subsequent to the Deer Removal Act, the policy of the Crown, as regards the ancient woods, has been to maintain and preserve them as far as possible, consistent with good management. It has been urged over and over again, that the Crown had cut some of the fine old woods "smack smooth," and destroyed the beauty of the Forest in many directions. These assertions were in special reference to the inclosures made under the Deer Removal Act, which provided that the timber should be cut to defray the expenses of inclosure. In this respect there was no contravention of the Act on the part of the Crown, but rather a mistaken view of things on the part of the commoners and others who thought they had good reason to protest. It is none the less a fact, that many of the inclosures included some old woods, duly approved by the Commissioners, and the policy of the Crown being to cut the scrubby and decayed trees as occasion and necessity required, leaving the finest trees, or clumps of trees, in most conspicuous places, both for ornament and to renovate the Forest by producing self-sown trees, and where necessary to replant. The Crown was not authorised, nor under any obligation to proceed in this way, but in accordance with the strict letter of the Act, to cut the trees "smack smooth" and replant. There were advantages recommending the procedure adopted by the Crown in inclosing the old woods, inasmuch as the land was known to be adapted for the growth of timber, without any geological test or theoretical experiment; that they would probably renew themselves if inclosed, that the inferior, scrubby, and decayed timber would, in accordance with the Act, repay the cost of inclosure and also satisfy the fuel rights, and that the common rights would be least prejudiced thereby.

Moreover, if the Commissioners had sanctioned a general inclosure of the old woods, it would have been the means of preserving those beautiful parts of the Forest by fencing against cattle, and would have permitted a natural annual increment, replacing trees decayed, blown down, or allocated for fuel: in a word preserving a continuity of the woods and the beauty of the Forest. As an illustration of the policy of preservation and natural maintenance combined, I may refer to the old woods *within* recent inclosures containing some of the finest trees of the Forest. When these trees go, as go they will in due time, others are standing near them to take their place.

It was not proposed to make permanent inclosures of the old woods, nor to exclude the public, but to protect the young trees, and, where necessary, to fill up the open spaces by re-planting, and so leave the work of nature and man until such time as the trees were past danger of prejudice by cattle. This would have given a maximum result at a minimum cost. Another system of renewing the old woods was to enclose 20 to 50 acres, and allow nature to replenish herself, but the clause in the Deer Removal Act, suggested by the commoners for their own protection, precluded this beneficial improvement.

With regard to enclosures made under the Deer Removal Act, I have already given some details, and it is sufficient to say that ocular demonstration now proves that a large proportion of bad land was taken with the good, that the former is not adapted for growing oak, and the deceptive character of the surface and subsoil affecting the growth of trees peculiar to those soils, referred to under the geological section of this Paper, has been made manifest by results. The results also prove that the Crown officials were right in selecting inclosures where timber was previously in evidence, as against those inclosures thrust upon them by the Commissioners. Bearing in mind the peculiarities of soil, and the fact that large inclosures had to be made, a practical man would ask how it was possible to avoid taking some bad land with the good and would argue that therefore the attempt to grow oak on bad land was bound to be a failure.

Following this to its logical conclusion, any comparison of value of interests between the Crown and the commoners in respect of acreage of land, inclosed or uninclosed, is unsatisfactory and delusive, bearing in mind that all inclosures, whether of good or bad land, were by way of compensation for the relinquishment of a most valuable right of the Crown, estimated at four-fifths of the Forest, in favour of the adjoining owners and commoners.

Maintaining a perfectly open mind, I will not leave this subject without referring to the policy of the Crown as advocated by the late deputy surveyor of the Forest, Mr. Cumberbatch, who so far back as December 31st, 1853, wrote: "It appears to me that the Crown "should as soon as possible exercise its rights of enclos-"ing the 16,000 acres" (evidently referring to the two Acts) "because, exclusive of other advantages, by so "doing all the best pastures will be taken from the "commoners and the value of their rights of pasture "would be naturally diminished, which would be of "importance to the Crown in the event of such rights "being commuted, as suggested in the 31st Report to "Parliament."

I have ventured to quote this because a great deal has been made of the letter, it having been referred to in the Report to the Committee on Crown Forests in

1854, as the policy which was to be adopted with regard to the Forest, and also referred to in one of the petitions to the House of Commons in 1875, signed by 895 owners and occupiers exercising rights of common in the New Forest. One is tempted to ask "inasmuch as the "policy of the Crown, by its officer, was disclosed in "1854, how was it that 21 years elapsed before the "question of diminishing the common rights was raised "by the commoners and the Inclosure Commissioners?" It can only be presumed that the commoners saw the effect of the inclosures as the result of the compensation awarded by the Act of 1851, and that they were not disposed to abide by that Act. Herein lies the crux of the whole contention between the Crown and the commoners, the latter making the most of that avowed policy to strengthen their case.

The navy having ceased to require oak, and the Sovereign having *for life* transferred the revenues of the Crown property to the nation, the paramount duty of the Commissioners of Woods was to obtain the largest possible revenue from the forest (consistent with good and proper management) for the benefit of the nation as tenant for life of the Sovereign, practically as trustees of a settled estate; and at the same time to allow the public the indulgence of free access to the uninclosed portions of the Forest. It cannot, I think, be denied that planting was the most advantageous method of securing the largest possible revenue under the circumstances, especially in view of ultimate profit, and if unfettered by restrictions, such planting might, for reasons stated, have been better arranged, and have proved more profitable and consistent with the art of forestry, much more picturesque, and far more enjoyable to the general public, while at the same time improving the inheritance; which objects were, I apprehend, foremost in the minds of the Commissioners of Woods and the deputy surveyors.

As regards the present management of the Forest, it would be an invidious task to criticise; I will only say that the reconciling of directly conflicting interests is always difficult, especially when the managing authority is bound hand and foot by Acts of Parliament. The good that might be done, cannot be done, and where it was attempted, the opposition forbade.

THE NEW FOREST ACT, 1877.

This Act was based on the Report of the Select Committee,* and it is noteworthy that the third and most vital of the resolutions was carried by a majority of *one* vote only.

I do not propose to discuss the Act at any great length, but I would recommend those interested in its application and effect on the Forest, and the interests of the public, to give it careful consideration in conjunction with the previous Acts I have referred to, and if this be done without bias or prejudice I venture to think it will be condemned as a most ill-considered piece of legislation, unworkable as regards its main objects, and framed entirely in favour of the commoners without regard to the principles of justice or the interests of the public.

Clause 5 of the Act limits the right of inclosure of the Forest formerly authorised by Acts of Parliament, and enacts that "such right shall in future be exercised "only on such lands as were inclosed at the date of 'passing the Act or have been previously inclosed by

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* See Appendix Reports.

" virtue of Commissioners issued in pursuance of those " Acts." Clause 6 refers to the limitations of inclosure or lands affected by Clause 5, and, *inter alia*, authorises any part of such lands " to be inclosed, planted, laid open, " replanted, or re-inclosed provided the whole quantity " of such lands under inclosure *does not exceed sixteen* " *thousand acres*." (The italics are mine.)

" Provided also as respects the lands in this section " mentioned that in cutting timber or trees for improv" ing the woods or for sale, care shall be taken to main" tain the picturesque character of the ground, and not " wholly to level or clear the woods, but to leave from " time to time a sufficient number of the most orna" mental trees, and to keep the woods replenished from " time to time by protecting the self-sown plants, or by " planting trees in the vacant spaces having regard to the " ornamental as well as the profitable use of the ground."

" Clause 8. The ancient ornamental woods and trees " in the forest *shall be preserved*, and except so far as is " provided by this Act *the Forest shall remain open and* " *uninclosed*, and wood shall be provided for the satis" faction of fuel rights without the sacrifice of orna" mental timber."

Clause 9 makes it lawful for the rights of common "to " be exercised during fence month and winter heyning in " consideration of a payment to the Crown of twenty " shillings per annum."

Now if these clauses be subjected to an intelligent analysis of their construction and application in practice it will, I think, be found that the assertion I have ventured to make, that they operate in favour of the commoners as against the Crown and the public is justified, and further that some of them are inapplicable to practicable forestry.

The effect of Clause 5 was to limit the operation of the Office of Woods in the growth of timber and trees for the public benefit and revenue purposes, to such plantings as were made under either of the three Acts cited, which remained inclosed in 1877, or had been previously thrown open, so that the waste lands of the Forest to the extent of over 40,000 acres remain unproductive, and cannot be planted.

It is therefore manifest that the rolling power vested in the Crown, for planting so much of the Forest adapted for the growth of timber and trees under statutory regulations incorporated in the three Acts has by the Act of 1877 been repealed, and, I venture to reiterate, the rolling power under the Act of 1851 was allowed by way of compensation for reasons stated, and that such compensation has by the Act of 1877 been reduced to *one-fourth* at the least. Thus the right of the Crown to plant trees for revenue purposes as affecting present needs, and timely provision for probable contingencies, now and always beneficial to the public as tenant for life, whether in cash, stock, or material, has been considerably reduced in order to enhance the value of the common rights at the expense of the public, the majority of whom have never seen the Forest, but have, nevertheless, a large interest in the beneficial right accruing from the Forest, in the form of revenue in reduction of taxation.

The encroachment on the rights of the public does not end here. The New Forest is the hereditary property of the Crown, subject to the rights of the commoners, and the public is the tenant for life of the Sovereign so long as he is provided for by the Civil List. The Act of 1877 not only affects the revenue of the Crown as pointed out, but depreciates the reversionary interest in succession, to the extent representing a revenue which would be derived from at least 32,000 acres of planted forest, in days when timber will probably be considerably more valuable than at the present time.

It may be a very remote contingency that the Sovereign should elect on accession to receive the revenues of the Crown Estates, which in the case of the New Forest can be greatly increased if held in severalty, and under separate administration, free from common rights; but whether that event occurs or not, one thing is certain, that the Forest might ultimately become a very valuable national property. There are at least two parts of the Forest now ripe for building, namely at Lyndhurst and Brockenhurst (where a water supply is being laid down), and other parts of more or less latent value that may be developed in the same direction. Moreover, it should be borne in mind that the hereditary revenues of the Crown are transferred to the nation during the life of the Sovereign, therefore an important trust is involved in the nature of a settled estate, and the nation, as tenant for life, whilst entitled to the revenues, is, I venture to suggest, bound to maintain and conserve those estates (of which the Forest is a part) without detriment to the interests of the reversioner. That was *not* done when the compensation awarded to the Crown under the Deer Removal Act was reduced by three-fourths, and the rolling power to enclose the waste lands under conditions stated repealed in favour of the commoners and owners of property in and adjacent to the Forest.

I will now briefly consider the Act of 1877 as it affects practical forestry and the management of the woods of the Forest. The ambiguity of the proviso to Clause 6 makes it almost impossible to construe it in a literal sense, and to impart a common-sense view seems to me undue presumption. It will be observed that the paramount object is to improve and maintain the picturesque character of the woods; they are not to be wholly cleared, but a *sufficient number* of the ornamental trees is to be left. Who, may I ask, is to decide what shall be a "sufficient number" or the "most ornamental" (say of Scotch fir), and at the last cutting to fix the number of trees that shall finally occupy the ground? How can the woods be "replenished from time to time by protec-"ting the self-sown plants," when by the same clause the Crown has the power to throw open any inclosure? Planting vacant land can only be attended with success when there is sufficient light and air space, and if protection against cattle be necessary, it follows that the inclosures must *not* be thrown open.

Natural reproduction of hard-wood timber can be attained and maintained under reasonable conditions, but I have not yet seen, nor ever heard, of any planting of Scotch fir renewed by self-sown plants under the most favourable conditions, and the close canopy required by the Act as ornamental trees (and Scotch fir, be it noted, is the crop of by far the larger area of inclosures under the Act of 1851), which, on arriving at maturity or the last cutting, should be cleared and the land replanted. The same observation applies with equal force to the oak plantations, and indeed any other trees. It is monstrous to leave them to stand after they have reached their prime and maximum value, when they should be cut in rotation to make room for the self-sown saplings to develop and grow into trees of beauty and value, rather than to become deformed or shapeless scrubs.

The conditions laid down regarding prohibition from clearing the woods, and at the same time leaving sufficient ornamental timber to replenish by protecting self-sown plants of hard *and pine woods*, are, taken collectively, practically impossible, having regard to the nature of things governing the operation and character of the work and the class of timber dealt with; and if the sentences be construed separately by themselves, then in practice one condition is countervailed by another. The fact is that hard and soft wood trees require management peculiar to the class and kind dealt with, and no Acts of Parliament can govern the course of nature.

The effect of Clause 8 is infinitely more prejudicial to every right and interest touched upon in this Paper, including the reversionary interest of the Crown, the general public, and the residents and commoners. "The "ancient ornamental woods and trees in the Forest shall "be preserved . . . . and remain open and uninclosed." These picturesque old woods possessing the natural antiquity of the Forest, and covering an area of about 4,500 acres, will, in course of time, be absolutely lost to the nation if this suicidal system of preservation, without natural reproduction coupled with protection, be insisted upon, and nothing will be left except a few old decayed trees and hollies to mark the place where stood an ancient forest, and to show our children the folly of their ancestors. Trees have their day, their growth, maturity, decay, and death; they cannot be preserved at a state of maturity; decay and destruction must inevitably follow. These fine old woods are "hurrying to destruction," and if it be desired to preserve them, nature must be assisted in replacing those that have already gone, or are fast going, by inclosing those woods, not necessarily against the public reasonably inclined, but for the protection of the seedlings and saplings against cattle. It is no use to harp on the old worn string, "where there's "a bush there's a tree," for thorns, thickets, brambles, and hollies will not now do the protecting work so often attributed to them.

There is evidence of the old woods having been "incoppiced," and why should not we imitate our forefathers? Either the old woods must be sacrificed for the commoners, or inclosed and saved for the public at large. Which shall it be?

THE NEW FOREST ACT, 1879.

This is a short Act to amend the Act of 1877, containing only two clauses, the second of which permits the verderers to allow, *inter alia,* "cattle and other "animals belonging to persons not being commoners, "but being owners of land adjacent or abutting on the "Forest, to depasture in the Forest on payment to the "verderers subject to conditions, but that no right of "common shall be acquired."

Does not this appear to be a curious anomaly? It is diametrically opposed to every argument hitherto made by the commoners in defence of their rights of common. I have referred to the determined opposition of the commoners against the Crown inclosing the wastes as allowed by the Deer Removal Act; and, in support, it was stated in evidence, and also in a petition signed by 895 commoners, that the extent of lands entitled to a right of common of pasture is not less than 65,000 acres, and that only 11,000 of the open and better quality of land in the Forest remained to satisfy cattle, levant and couchant, on those 65,000 acres, which seriously prejudiced the interests of the commoners, and that on this account further inclosures should not be made.

The Select Committee concurred in that view by

Resolution 3 of their Report,* which became part of the Act of 1877.

Two years later we find the Act of 1879 creating a new interest and privilege, not as a right, but having the same effect, and which may be exercised in no small degree, otherwise a special Act of Parliament would scarcely have been worth the expense of the Act, and the consideration payable to the verderers.

Inasmuch as the soil of the Forest is vested in the Crown by the Act 10 Geo. IV., c. 50, it seems that the Act of 1879 is an innovation to make it legal for the verderers to create new privileges, for a consideration, in favour of residents of the Forest as against the commoners and the whole community. This is regardless of the fact that among the reasons for inducing the Select Committee and Parliament to "limit the operation " of the Office of Woods in the growth of timber" to the extent of the inclosures made previous to 1877, it was maintained that there was not sufficient pasturage for the commoners. Where then is the pasturage for those that are not commoners? The verderers have answered the question by procuring the Act of 1879, which the commoners did not oppose; and it therefore follows there is sufficient pasturage for both commoners and resident non-commoners who may avail themselves of the privilege thus conferred. As a natural corollary the Inclosure Commissioners and Parliament had not a sufficient grasp of the situation to enable them to guard the interests of the public at large when they passed the Act of 1877, otherwise the Crown would have fully 10,000 acres under the Act of 1851, and received the compensation due to the public. It also follows that there are more animals to damage the young trees;

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* See Appendix.

hence the increased necessity for inclosing the old woods.

There is another deduction of equal significance. The commoners regarded the value of their common rights in 1875 as injuriously affected for reasons stated; but how much more are they injured by the Act of 1879? Such things are patent to those who have professional business in connection with farms contiguous to the Forest. Since 1879 I can bear testimony to the fact that rights of common of pasture are not considered very valuable adjuncts to any farm, and it is often remarked that common rights are not now of much value, as anyone may turn out cattle or ponies on payment.

GENERAL CONCLUSIONS.

The New Forest has always been a source of dispute between parties having opposite interests. From the days of William the Conqueror we have a continuous record of disagreement between the Crown and the people; and in recent years the commoners set against the Crown and the whole community. Improvements in directions beneficial to the public as tenant for life of the Sovereign, which should be of paramount interest, are impeded, and the position of the Crown, and therefore of the public, is considered as of secondary importance when in conflict with the interests of the commoners.

Popular sentiment has made much more of the inclosing of the Forest wastes than was justified by the facts. The public always enjoyed the open spaces of the forest, and there was no intention, so far as I see, to inclose the Forest as a whole, nor to exclude the public, who, on the passing of the Act of 1877, gained no more than they enjoyed before in the way of liberty and recreation. But so far as preserving the ancient ornamental woods is concerned, a great loss to the public is incurred, not only as regards the ornamental trees, but the ultimate amenity and value of the national property as a whole. When those trees are gone of what value is the property without them ?

By all means preserve and *maintain* the Forest by sound practical methods as a national property for the benefit of the whole community, if the beneficial interest can be equitably distributed, but where interests are so conflicting and brought into opposition, it is better to sever them, and dissolve the partnership, all rights being justly compensated. Here, in the Forest, we have the dual interests of the Crown and the commoners. The former has to provide, from the revenues of the Forest, for the management, not only of its own affairs, but of those of the commoners. Consequently, the public is deprived of so much of the revenue as represents the cost of general maintenance of the Forest in order that those rights may be exercised. Take as illustrations the rights of turbary, fuel, and marl. These are exercised under the view and allowance of persons paid by the Crown. Rights of common of pasture necessitate the employment of men as agisters and others; and the cattle and ponies are frequently found within the inclosures, gates of which are left open or fences broken down. Forest dues payable by commoners give immense trouble to collect, the cost of collection equalling the amount paid. Such things show that expenditure might be contracted, and the revenue expanded in like proportion on complete disafforestation. In this event, following precedent, the area would be reduced, and probably limited to an extent embracing all inclosures and the Crown demesne lands, so far as practicable, within a ring fence, the commoners being alloted certain parts of the Forest contiguous to their holdings, or otherwise compensated in money value for their interests in common rights. As a result the Crown and the public would have a national property, properly kept up and maintained, possessing a considerably enhanced value, while the public *per se* would doubtless be allowed ample open space for recreation, and the enjoyment of the highways through a well-conserved domain.

I am not unmindful of the fact that Parliament has by the Act of 1877 determined in an impracticable manner the future administration of the Forest; but there are clauses in that Act providing that in the event of disafforestation the pre-existing and paramount rights of the Crown shall not be affected thereby. I am also aware that a more recent Select Committee on Woods and Forests and Land Revenues of the Crown in their Report,* dated 30th July, 1890, concurred in the policy adopted by Parliament in 1877 with regard to the New Forest, namely, "the preservation of its ornamental "character, and not with an exclusive view to the profit to "be derived from it." On the other hand, a Select Committee on Forestry,* after hearing expert evidence of the highest importance relative to the Forest, makes use of some very significant, not to say strong, language in a Report dated August 4th, 1877, as to the effect and operation of the Act of 1877, and particularly with reference to the state and condition of the woods and the preservation of the ornamental character of the Forest, the object had in view being defeated by the provisions of the Act, to the detriment of the Forest generally. Let those who are not convinced by the evidence adduced make a personal inspection of the Forest and a perusal of the Act of 1877.

* See Appendix.

The probability is they will come to the same conclusions as the Select Committee on Forestry and the opinion of experts. Therefore, on the ground of public policy, disafforestation is, in my humble judgment, the one and only method of remedying the evils alluded to, and of putting an end to encroachments on the Forest and its revenues for the purpose of maintaining the rights of the commoners at the expense of the public.

I have, however, shown that the question of revenue is regarded by Parliament and a Select Committee as a matter of secondary consideration compared with the value of the Forest as an open space for the benefit of the public; but it is a question whether the public requires 40,000 acres of open forest, most of which is never seen. What is seen and at present enjoyed will ultimately be deprived of its amenities and its beauty by being "preserved" in its gradual decay.

Preservation of some kind as an open forest is of vital importance to residents within and contiguous to the Forest, as affecting their interests above those of the general public; and preservation of the open character of the Forest is for the purpose of maintaining the rights of the commoners at the expense of the public, which rights are of more value to those commoners who reside in or near the Forest, as compared with those who may exercise rights attached to lands situated at a distance from the Forest; and again, the public generally do not derive any advantage by reason of the open ornamental character of the Forest, other than that enjoyed before or after the Act of 1877; but indirectly pay very dearly for those privileges. Not only would disafforestation *save* the Forest to the public, but would be a great boon to the commoners, especially to small holders. From my experience of them, and judging from the opinions of those better able to decide, such as the late Mr. John Clutton and Mr. W. Menzies, I believe that the small holder commoners would on disafforestation become more persevering and thrifty when employing all their time and energies on their own land.

In support of this view I would give as an illustration Windsor Forest, which was at one time the counterpart of the New Forest, under practically the same forest laws, with commoners having similar rights exercised during the summer, and in which there were deer causing similar annoyance.

In his *History of Windsor Great Park and Windsor Forest* the late deputy surveyor, Mr. Menzies (than whom there was no better authority), wrote as follows: "The inclosure was a great benefit to the community, "and laid the foundation of the present prosperity of "the district. In a few years the country settled down "quietly and devoted itself to the cultivation of the "land."

"The awards," following disafforestation, "were made "in the year 1817," and "planting commenced about "1820;" the result of which is, pre-eminently, the greatest success in this direction in modern times. At Windsor Parks and Forest, old woods and young plantations are managed, not so much for revenue purposes but with a view to the ornamental character of the property, and its *preservation* and *maintenance* are *combined.* Since disafforestation no rights of common exist, but the public have the greater advantage of access to a well-kept domain, and I doubt very much if anyone would wish a return to the old open forest and wastes.

The New Forest has no royal residence, and considering its extent and character, one can estimate the many advantages which would follow disafforestation and allotment in lieu of common rights. The whole community would understand the value of preservation of the beauty of the Forest by natural and artificial reproduction of the ancient woods without the necessity of inclosure.

When that day arrives, and not till then, the whole of that part of the Forest allotted to the Crown can be managed with a view to national profit and public advantage.

A SCHOOL OF FORESTRY.

Although my Paper has, I fear, already passed the bounds of patient endurance, I must crave permission to add a few words touching the necessity for establishing a School of Forestry. I am aware this is no new suggestion, and that it has been repeatedly advocated by The Institution. Select Committees on Forestry and the establishment of a Forest School were appointed in 1885-6-7, and their Report of August 4, 1887, was strongly in favour of such a school, but nothing has been done except that, as I understand, a few thousand acres of Windsor Forest near Bagshot have been set apart for the Royal Indian Engineering College at Cooper's Hill, an institution mainly connected with Indian forests.

The objections to the New Forest, as part of the system of a British School of Forestry, have to some extent been removed by reason of the inclosures being held in severalty free from common rights. These inclosures extend to 11,254 acres. 6,198 acres of the planted forest have been thrown open and again subjected to forest rights, but these may be reinclosed, provided not more than 16,000 acres are inclosed at any one time. Here is ample ground for practical work and observation, restricted, however, to the regulations laid down by the Act of 1877. There are also the ancient woods of about 4,600 acres going the way of all things natural, affording opportunities for observation relative to causes of disease and decay, and demonstrating the folly of non-inclosure, which is preventing natural reproduction—methods to be noted and avoided.

The whole art of management for revenue and ornament combined is regular rotation consistent with governing conditions, many of them natural. Such as are applicable to hard woods admit reproduction by nature, which seldom fails, provided there be no ground game and that the seedlings and saplings are protected against cattle. The pine woods should be treated in rotation of periodical thinnings, and, at maturity, gradually cleared of the crop and replanted in sections to preserve, as far as possible, the ornamental character of the site, having regard to the physical features, nature of the soil, exposure, &c., so that one section may nurse or shelter another.

I have briefly referred to various unique characteristics of the Forest which seem to indicate its special adaptability for a School of Forestry. The varied geological formations and the wide differences of soils suggest exceptional advantages for the growth of all kinds of trees. Under "Physical Features" I do but touch the fringe of subjects which in themselves, if treated fully, would occupy many pages of most interesting detail. Every one of them is a subject of research for a School of Forestry; climatic conditions, watershed, surface configuration, entomology as affecting diseases of trees or attacks by insects, and ornithology are all here to be studied to advantage, and probably no better place for such an institution could be found than the New Forest.

In addition to all the opportunities for scientific investigation offered by the Forest, I believe that practical instruction in forest work may be easily acquired.

Lastly, I would venture to draw attention to, and emphasise the many exceptional advantages to be acquired at the Hartley College, Southampton, which has a curriculum essentially adapted to the purpose, and is within 15 minutes by rail from the Forest. Hampshire is probably the largest of the well-wooded counties of England, and many landed proprietors would, I have reason to believe, allow inspection of their woods and plantations by students in connection with a School of Forestry, provided there be no interference with the management. Such exceptional advantages should not remain neglected.

In conclusion, permit me to say that I am fully conscious that my Paper is necessarily incomplete by reason of the limited time at my disposal, notwithstanding a free use of "the midnight oil."

As far as lay in my power, I have dealt with a very complex subject in accordance with the facts and material at command, to some extent relying on my own experience. If the work I have thus imperfectly accomplished should prove useful in calling attention to what is really a national matter and conducive to the public good, without affecting the just rights of any private person concerned, your reception of my Paper will prove an incentive to renewed efforts, so that at some future time I may find myself able by judicious pruning to remove any anomalies and thus promote "the greater "good for the greatest number."

APPENDIX.

ACTS OF PARLIAMENT REFERRED TO.

YEAR OF ACT.	TITLE OF ACT.
9 & 10 Will. III., c 36. A.D. 1691.	An Act for the increase and preservation of Timber in the New Forest, in the County of Southampton.
48 Geo. III., c. 72. A.D. 1808.	An Act for the increase and preservation of Timber in Dean and New Forest.
14 & 15 Vic., c 76. A.D. 1851.	An Act to extinguish the right of of the Crown to Deer in the New Forest, and to give compensation in lieu thereof, and for other purposes relating to the said Forest.
40 & 41 Vic., c. 121. A.D. 1877.	An Act to amend the Administration of the Law relating to the New Forest in the County of Southampton, and for other purposes.
42 & 43 Vic., c. 194. A.D. 1879.	An Act to amend the New Forest Act, 1877.

SELECT COMMITTEES REFERRED TO.

The Select Committee appointed to inquire into and report upon the present condition of affairs in the New Forest, into the operation of the "Deer Removal Act, 1851," and particularly into the exercise and effect of the powers of inclosure given by that Act.

March 16th, 1875.

The Select Committee appointed to consider whether, by the establishment of a Forest School, or otherwise, our woodlands could be rendered more remunerative.

May 16th, 1887.

The Select Committee appointed to inquire into the administration of the Department of the Woods and Forests and Land Revenues of the Crown.

February 26th, 1890.

REPORTS.

The Select Committee appointed to inquire into and report upon the present condition of affairs in the New Forest, into the operation of the "Deer Removal Act, 1851," and particularly into the exercise and effect of the powers of inclosure given by that Act, have considered the matters to them referred, and have come to the following resolutions which they have agreed to report to the House:—

1. That the New Forest shall remain open and uninclosed except to the extent to which it is expedient to maintain the existing right of the Crown to plant trees.
2. That the ancient ornamental woods and trees shall be carefully preserved, and the character of the scenery shall be maintained.
3. That powers of inclosure conferred by Statute shall be exercised only on that area which has hitherto been taken in at various times, and been either kept or thrown out under the Acts 9 and 10 Will. III., c. 36, 48 Geo. III., c. 72, and the "Deer Removal Act, 1851."
4. That the Crown shall retain the power of keeping 16,000 acres of growing timber and trees planted under the Acts of William III. and 1851, at all times under inclosure; and that the Crown be entitled to inclose and throw out at will any por-

tion of the area over which the powers of planting are to be exercised, with a view to its unrestricted use in such manner as may be deemed expedient for the most profitable growth of timbers and trees; but that the rolling power over the open portion of the Forest not now planted or inclosed under the Acts of William III. or 1851 should cease.

5. That a nominal quit-rent be charged by the Crown to the commoners for the exercise of the right of common during fence month and winter heyning, provision may be made, if possible, for the payment of such quit-rent by some body representative of the commoners.
6. That the Verderers' Court be reconstituted so as to better represent the commoners, and to have power to regulate the exercise of the commoners' rights over the Forest, and to appoint officers to prevent encroachments upon them.
7. That all the rights of the Crown reserved under the Acts of William III. and 1851, except as it is herein suggested that they should be modified, be maintained.
8. That provision be made that in the event of any future severance of interests in the Forest between the Crown and the commoners, the limitations now proposed to be placed on the exercise of rights of the Crown should in no way prejudice the claims of the Crown.

July 16th, 1875.

Extract from the Report of the Select Committee appointed to inquire into the administration of the Department of the Woods and Forest and Land Revenues of the Crown:—

"THE NEW FOREST.

"The income of £10,777 5s. 2d. derived from this large "tract of land appears to be relatively small, but it must

" be considered that the profitable rights of the Crown in " the estate are very limited.

" The surface of the soil in the open Forest is subject to " the rights of common, the timber in the recent enclosures " has not reached maturity, and even in the older woods the " rights of the Crown are greatly restricted by the pro- " visions of the Act of 1877.

" The method of dealing with this estate was at that " time carefully considered by a Committee. The policy " then deliberately adopted by Parliament was that the " New Forest should be administered principally with " regard to the preservation of its ornamental character, and " not with an exclusive view to the profit to be derived " from it.

" Your Committee have not thought fit to reopen this " question as they concur in the policy then adopted. They " have found nothing in the evidence adduced to show that " there has been any departure in the administration of the " Forest from the principles laid down in the Act of 1877."

Extract from the Report of the Select Committee appointed to consider whether, by the establishment of a Forest School, or otherwise, our woodlands could be rendered more remunerative :—

" Your Committee also think it right to call your atten- " tion to the present unsatisfactory condition of the New " Forest. Mr. Lascelles, the deputy surveyor, has expressed " himself strongly on this question, and attributes it to the " Act of 1877. 'There are to be seen by the students of " 'forestry,' he says, 'over 40,000 acres of waste land lying " 'idle and worthless. But by Clause 5 of the Act of 1877 " 'no planting may be done there; he will see several " 'plantations of oak which are not only ripe and mature " 'but which are going back rapidly, and he will wonder " 'why the crop is not realised and the ground re- " 'planted, till he is referred to Clause 6 of the said Act by " 'which he will see that the ground may not be cleared of " 'the crop; last, and worst of all, he will see some 4,500 " 'acres of the most beautiful old woods of the country,

" ' most of which are dying back and steadily going to wreck
" ' and ruin. But here, again, absolutely nothing can be
" ' done. . . It is sad to see them dying out when all that
" ' is required to preserve them for future generations is to
" ' imitate the wisdom of those who made them at first, and
" ' by simply protecting by enclosing them and removing
" ' dead trees leave it to Nature to perpetuate them. . . .
" ' Those who framed the New Forest Act, 1877, desired to
" ' conserve these old woods, but their zeal seems to have
" ' carried them so far as to defeat the object they had
" ' in view, and I cannot but think that had forestry
" ' been a science commonly taught in the past, as I trust
" ' it may be in the future, owing to the result of this
" ' inquiry, no such clause could ever have found a place in
" ' an Act of Parliament dealing with woodlands. The
" ' object of the Act of 1877, no doubt, was that the Forest
" ' should be maintained in a state of natural beauty, and as
" ' the effect now appears to be to defeat this very object
" ' the present condition of the Forest demands the serious
" ' attention of Government.' "

Extract from the Report on a visit to the English and and Scotch Forests, by M. Boppe, Inspector of French Forests :—

" THE NEW FOREST.

" As old as Windsor Park itself the New Forest has not
" had the good fortune to be the dependence of a royal resi-
" dence.

" The barrenness and poverty of the soil has sufficed to
" preserve it from being plundered even at an epoch when
" land was valued more for its extent than its fertility ;
" but, on the other hand, this very fact attracted a poor
" and necessitous population to settle in and around the
" Forest, who, during long ages, have been accustomed to
" derive a precarious existence from it, and by careless
" abuses have threatened it with certain ruin. For many
" centuries the New Forest has thus been a prey to com-
" moners, who use up its resources without either method
' or control. One may see a steady onward progress which

" is made by the heather, and although it is not so quick " under the feet of the almost wild ponies and cattle as " under those of sheep, yet it is none the less sure.

" The sole remedy for this state of things was to restrict " the commons to certain defined localities, and that could " only be done by sacrificing a portion of the Forest to save " the rest. This is, in fact, what was done about twenty years " ago; but the sacrifice has, indeed, been a heavy one, for the " reservation of some 14,000 acres has caused the abandonment of 49,000 acres more. The part which has been " freed, however, is sufficiently extensive to constitute some " day a respectable forest, whilst the part given up is " hurrying to its destruction in a manner deplorable to " behold, and before very long there will be nothing left " but a worthless, barren heath.

" Without contesting the marvellous beauty of some " parts of the New Forest, so dear to artists and lovers of " nature, we are bound to say that before long it will not " be here that a professor of sylviculture desirous of teaching his science will choose to pitch his tent."

RETURN OF ALL THE ENCLOSED PLANTATIONS UNDER 9 & 10 WILL. 3, c. 36, & GEO. 3, c. 72,

Giving dates of Enclosure and Areas.

Name of Plantation.	Date of Enclosure.	Area.		
		A.	R.	P.
Added to New Park . .	1829	6	2	22
Beach Beds	1829	77	1	8
Bramshaw Wood . . .	1829	63	1	2
Broadley	1852	176	2	0
Buckford	1829	37	3	36
Burley (re-enclosed) . .	1700	124	0	0
Busketts Lawn . . .	1864	342	0	33
Clumber	1843	48	1	28
Coppice of Linwood (part of) .	1899	42	1	36
Costicles	1829	45	0	30
Dames Slough . . .	1859	358	1	20
Denny Lodge	1860	279	3	0
Ferny Knaps	1843	21	1	28
Fox-hunting Wood . . .	1843	56	1	32
Frame Heath	1852	419	3	2
Hasley	1846	90	1	14
Island Thorns . . .	1852	492	0	13
King's Hat	1843	65	3	17
Lingford	1846	140	3	2
Little Holm Hill . . .	1829	38	2	33
Little Linford . . .	1846	62	2	6
Northerwood	1811	16	2	37
Norley Wood (part of, re-enclosed)	1899	37	0	0
Oakley	1853	823	2	2
Park Hill	1853	693	3	38
Pignail Hill	1846	29	3	18
Pound Hill	1859	235	2	6
Ramnor	1815	107	0	2
Ramncr New	1829	30	1	15
Salisbury Trench (re-enclosed)	1899	92	2	4
Shave Green	1860	246	0	15
Shepherds Copse . . .	1811	12	1	36
Stubby Copse	1829	111	2	14
Stubby, New	1843	132	0	5
Wilverley (re-enclosed) . .	1896	500	0	0
		6058	2	34

RETURN OF ALL THE ENCLOSED PLANTATIONS UNDER "THE DEER REMOVAL ACT," UNDER 14 & 15 VIC., c. 76,

Giving dates of enclosure and areas.

Name of Plantation.	Date of Enclosure.	Area.		
		A.	R.	P.
Brochis Hill	1860	159	3	15
Deer Leap	1867	302	1	2
Denny	1869	462	1	18
Hawk Hill	1868	394	1	21
Highlands Water . . .	1868	785	2	7
King's Garn	1868	304	1	0
Knightwood	1867	563	1	0
Milkham	1861	393	2	13
Perry Wood	1866	794	0	10
Sloden	1864 & 1875	306	1	19
Slufter	1862	371	0	2
Finney Bridge . . .	1859	359	1	4
		5196	0	31

RETURN OF ALL OPEN PLANTATIONS,

Giving dates of enclosures, and throwing open, and area.

Name of Plantation.	Date of Enclosure.	Date of throwing open.	Area.		
			A.	R.	P.
Aldridge Hill . . .	1775 & 1809	1843	127	2	27
Amberwood . . .	1815	1851	23	3	30
Anderwood . . .	1811	1851	168	3	30
Appleslade . . .	1829	1887	86	2	28
Backley	1829	1887	42	0	2
Bartley	1817	—	—	—	38
Bentley (north) . .	1700	Not known.	74	2	23
Bentley (south) . .	1700		53	1	16
Bratley	1829	1887	46	0	34
Broomy	1808	1851	225	1	24
Burley New . . .	1810	1851	330	2	37
Church Place . . .	1810	1851	177	1	24
Coppice of Linwood (part of) . . .	1775	1829	201	3	20
Fletchers Thorns . .	1829	1887	73	2	1
Foldsgate Hill . . .	1829	—	21	3	15
Foxhunting Little . .	1843	1887	33	0	10
Furzey Lawn . . .	1775	1829	78	2	38
Godshill Wood. . .	1810	1851	384	1	39
Holidays Hill . . .	1811	1887	163	3	20
Holly Hatch . . .	1808	1851	149	2	3
Holm Hill . . .	1815	1851	285	0	20
Holmsley . . .	1811	1851	345	0	9
Hurst Hill . . .	1808	1851	180	3	27
Ivy Wood . . .	1829	1887	20	0	22
King's Copse . . .	1815	1851	158	3	38
Lodge Hill . . .	1810	1851	138	0	14
Long Beech . . .	1775	1815	145	3	0
New Copse . . .	1808	1851	281	1	9
Norley Wood (part of) .	1810	1829 & 1843	126	0	20
Ocknell	1775	1815	248	1	1
Over Corner . . .	1829	1887	5	2	36
Pitt's Wood . . .	1775	1815	121	1	18
Ravens Nest . . .	1775	1829	74	2	27
Rhinefield Sandys . .	1775 & 1809	1843	224	1	29
Roe Wood . . .	1811	1851	342	0	11
Setthorns	1811	1851	318	2	9
Sloden	1775	1815	91	3	9
Stockley	1809	1851	131	0	14
Wootons Hill . . .	1829	1887	84	1	25
Wootton	1808	1829	410	1	1
			6,198	0	38

Mr. Arthur Vernon (Fellow) said he very willingly rose to voice what he was sure was the feeling of all present, by moving a hearty vote of thanks to Mr. Smith for his Paper.

It seemed to him that Members who had come to Southampton expecting to share in a pleasant and profitable visit would certainly not be disappointed. It was gratifying to find amongst local surveyors connected with their body an archæologist who could treat his subject so ably; for it must be agreed that to condense a thousand years of history, and his reflections on them, into so comparatively short a Paper and one so interesting as that which they had just listened to, was a high tribute to the Chairman of the Provincial Committee.

He looked forward to the time when Mr. Smith would tell something about the wealth of Southampton as affected by the sea, which he thought was a factor of the greatest importance in the rise and progress of the town.

Mr. T. A. Dickson (Fellow) said he had much pleasure in seconding the vote of thanks to Mr. Smith for his very comprehensive Paper. Everyone, he thought, from the earliest days of childhood, had been interested in the history (perhaps often legendary) of the New Forest, in the story of the acts of tyranny of William the Conqueror, and in the tragic fate of Willian Rufus. All who visited Southampton and the New Forest for the first time came prepared to be interested, and he was sure that under the able guidance of Mr. Smith and his colleagues they would not be disappointed.

It seemed reasonable to indulge a hope that, in the future, the policy suggested by Mr. Smith (as he gathered from the Paper) would be followed, namely, that the Forest should be preserved as a great national playground or park; that in some way the exclusive rights of the commoners should be done away with if possible, and the forest preserved in all its beauty.

He had very much pleasure in seconding the vote of thanks to the author of the Paper.

Mr. BURROUGH HILL said that it must have occurred to everyone present that to make a valuation of forest land was always a difficult thing. It was taken, it seemed, at 5*s.* an acre, which, capitalised, represented about £7 10*s.* The so-called rights and privileges which many people were supposed to acquire in connection with their purchases were, he considered, often of but little value. He bought a property in the Forest some time ago, and his solicitor congratulated him on his valuable rights. He had the right to turn out 1,000 sheep, which he did not think half a dozen foresters had, but if he had turned them out their fate would have been simply starvation. What was once a very valuable right was now almost worthless.

He should not like to be one of those who attempted to spoil a magnificent forest; but when he thought of the population and of places such as Lyndhurst and Brockenhurst, contiguous to the Forest, where people were doing their utmost to get even a single rod of land for building a valuation of 5*s.* an acre seemed absurd.

The other day he unfortunately bought a property, and found after he had bought it that he could not get convenient access. He could walk across a piece of greensward, but when he wanted to drive across the commoners objected saying it would deprive them of their rights. The Crown interfered. He wanted to lay out £30,000 or £40,000 on this piece of land, but he found that the 5s. an acre had gone up considerably. That little piece of land over which he only wanted the right of way—he could never hope to purchase the fee—came to over £5,000 per acre. It seemed to him that for a site in such a magnificent place as the Forest, many persons would be glad when occasion arose to give a long price, and that 5*s.* an acre or £7 10*s.* capitalised was an absurd valuation.

PAPER 267.
No. 429.

THIRD PAPER.

RECENT PROPOSALS FOR AN AMENDMENT OF THE LAW AND PRACTICE AS TO ANCIENT LIGHTS.

BY PHILIP E. PILDITCH (FELLOW).

The purport of this Paper is to give a brief account of the efforts that are being made to bring about an amendment on that subject of perennial interest to most surveyors, provincial as well as metropolitan—the law and practice of Ancient Lights—and to discuss the proposals formulated.

It is, I think, generally agreed that the great body of case law which has been built up upon the basis of the simple enactment on the Prescription Act of 1832, that "when the access and use of light to and for any "dwelling-house, workshop, or other building shall have "been actually enjoyed therewith for the full period of "twenty years without interruption, the right thereto "shall be deemed absolute and indefeasible," includes many judgments difficult to reconcile with one another, and that there is not to be deduced from them anything like a clear or definite rule by which the owner of an ancient light on the one hand, and the owner of property adjoining upon which buildings are about to be erected or increased in size, on the other, are able to ascertain what are really their respective rights, and to what limitations these rights are subject.

The position of the doctrine of the 45 degrees; the claim to a right for a special quantity of light for extraordinary purposes; the definition of what is meant by material and substantial injury to lights; the question as to whether, if sufficient light be left, it matters as to how much, beyond that sufficiency, is taken away,—all these questions and others seem apparently to be insoluble by the Courts and constitute a fruitful field for the production of differences and disputes between building owners and the owners of ancient lights, and the cause of constant recourse to the Courts at considerable expense in money, time, inconvenience and irritation, by way of injunctions to restrain or actions for damages, with, in many cases, results which are satisfactory to neither party.

Some have indeed gone further than this in their complaints of the state of the law and have contended that the power given to the owner of even a very small and unimportant light to restrict or in any case delay the erection of important buildings has led to serious hardships, and has, in some cases, opened the door to what can be described as little short of blackmailing operations.

And it is clear to anybody who has much to do with light and air cases in the Courts that it is difficult for the ordinary legal tribunals to deal with these technical questions without great waste of time and in many cases uncertainty as to substantial justice being done.

Actuated by these considerations, the Royal Institute of British Architects, in the beginning of 1900, came to the opinion that an alteration in the law of Ancient Lights was urgently needed, and placed itself in communication with The Surveyors' Institution, and the two bodies appointed a Joint Committee, which made a report on the subject at the end of 1900, which most of those present have probably seen.

The contents of that Report may be summarised as follows:

In the *first place* it is proposed to limit the right of the owner of an ancient light, where such right has not already been acquired, to a right to receive light sufficient for all ordinary purposes, but not to include a right to an extraordinary amount for special purposes.

In the *second place* the difficulty which is sometimes experienced of obstructing a light which would otherwise in the course of time gain dominant rights is obviated by it being placed within the power of the owner of adjoining property over which such rights would, if acquired, be exercised, to give a legal notice, to have the same effect as though such obstruction had been put up and submitted to for one year.

In the *third place* there is a provision for certification and registration of the plans of buildings about to be pulled down, and I suppose, although the Report does not distinctly say so, the identification of ancient lights existent in the old buildings.

In the *fourth place* there is a provision that no building erected after the 1st January, 1905, shall acquire any further rights of light and air where it abuts on any way used by the public as an access to various tenements.

In the *fifth place* (and this constitutes one of the most important parts of the Report), provision is made for the settlement of differences arising between a building owner and the owner of adjoining ancient lights, by means of a tribunal formed of the surveyor for either party or of their umpire, with power to the umpire of determining " the right of the building owner to carry " out his intended works, the alteration (if any) necessary " to be made in carrying out the proposed new buildings " or alterations to prevent or lessen the obstructions " complained of, and the amount (if any) of compensa-

“ tion of every description to be made to the owner, “ lessee or occupier, the alterations or improvements to “ the adjoining premises by light-reflecting surfaces, “ enlargement of lights, heightening of premises, or “ other means, the amount of costs to be paid by each or “ either party, and, generally, all matters required to “ arrive at a settlement.”

And there is a provision for an appeal to a committee consisting of an architect, a surveyor, and a barrister, with power to decide whether and to what extent the proposed new buildings shall be amended or the dominant premises altered.

In any case in which a larger sum than £500 is awarded, either in money, damage, or works, or in which the interference with the proposed works exceeds £500 in value, there is power of appeal to the High Court.

Then side by side with the powers just previously described given to the surveyors, the tribunal and the High Court there is, *in the sixth place*, a provision that in any action to restrain a building on the ground of its interference with rights of light, and whether an *interim* injunction has been obtained or not, either party may apply to a judge either to hear the same with an assessor or assessors, or to refer it to arbitration in the manner before provided.

This Report is in process of being drafted as a Bill, which will then be taken into consideration by the Council of the Incorporated Law Society with the view of the co-operation of that body being obtained.

It will be seen, therefore, that the proposals which have been made really amount to this:—

The basis of the law is so far defined as to eliminate from the rights of an adjoining owner any right to light for extraordinary purposes, and to limit them to a right to receive light *sufficient for all ordinary purposes*, and that the settlement of the question which may arise as to whether sufficient light has been left for all ordinary purposes may either proceed in a way similar to that obtaining in the case of party-walls under the London Building Act (except that the third surveyor or architect called in on light and air cases is to be an independent umpire and not to act in conjunction with one or both of the *ex parte* surveyors) with an appeal to a technical committee, and beyond that to the High Court; or apparently he may still proceed in the old way by an application for an injunction to restrain, which may be referred by the judge to the arbitration before described, if it appears to him the claim may be satisfied by damages.

This, put briefly, is what the present proposals amount to, but before saying a few words upon them, it may be useful to make some remarks upon the more important of the recent cases which have occupied the Courts, and which exemplify the accuracy of the view that some simplification of the legal basis for our practice in the subject is absolutely essential.

In the Appeal Court case of *Brown* v. *Collings*, which was decided in 1899, the Master of the Rolls, Lords Justices Rigby and Vaughan Williams concurring, said, " it was a question of degree whether there had been " such obstruction or diminution of light as to render " the premises uncomfortable or unfit for the ordinary " purposes of habitation or of carrying on business. He " came to the conclusion that a considerable quantity " of light which had formerly access to the plaintiff's " windows had been cut off by reason of the defendant's " building. There ought to be an injunction to compel " the defendant to pull down *so much of his building as* *"obstructed the access of light as previously enjoyed in "the plaintiff's buildings."*

This was a case where the offending building was to be from 60 to 70 feet distant from the ancient lights, and the extreme height of same from ground to top of gable was 44 feet and no more : a portion of the offending wall would have been 32 feet high, and the Master of the Rolls, in his judgment, said he thought the defendant's building should not be above 25 feet high, and subsequent words he used indicated that it was his opinion that it was not enough to consider whether the plaintiff had a sufficient quantity of light left, but that what had to be considered was the amount taken away.

This seems to be a strong judgment in favour of the contention that the owner of an ancient light is entitled to all the light he has enjoyed through it for the statutory period.

It was not many months, however, before a decision embodying quite different principles was given by Mr. Justice Wright, who held, in the case of *Warren* v. *Brown*, that a house is not necessarily entitled "to have "all, or substantially all, the same light coming to its "windows as during the twenty years," as this would "impose on servient tenements an unreasonable burden "and might involve grave public inconveniences. Nor, "if that were law, could there well be any presumption "that so long as 45 degrees of light, or some approxi-"mate angle, is left, there is no actionable wrong."

The judge, therefore, having found that there was sufficient light left for all ordinary purposes of inhabitancy or business, non-suited the plaintiff and apparently resuscitated the 45 degrees angle theory in a great measure.

This judgment was followed by Mr. Justice Joyce, who, in the case of *The Home and Colonial Stores, Ltd.*, v. *Coles*—in a case where the back part of rooms enjoying light through an ancient window was so dark as to have needed artificial light on ordinary days, but where the remainder of the plaintiff's premises would, after the erection of the defendant's building, be well and sufficiently lighted for all ordinary purposes—non-suited the plaintiffs, although it was shown that they would lose a considerable quantity of the light they had previously enjoyed, feeling bound, as he stated, to follow the decision in the decision in the case of *Warren* v. *Brown* until it was upset.

Apparently, the Appeal Court case of *Brown* v. *Collings* did not seem to be available for use by either of these judges in arriving at their decisions and there is no reference to it either in the arguments or judgments.

I understand that both judgments are to be appealed against.

A subsequent case in which I was engaged, and which occupied one of the judges above-mentioned the better part of three days, rests, at the present moment, upon an expression of opinion by the judge, in which a distinction was drawn which appears to modify to a great extent, in certain cases the dictum laid down in the last two mentioned cases, but under the circumstances I cannot say more than that at the moment.

I do not quote these cases as giving in any way an exhaustive description of the tendency of recent cases, but simply as indications of how complicated the question has become and how impossible it is for a layman, even though he possesses the technical knowledge which the practising surveyor or architect should have, to guide his clients as to what he is, in building, entitled to do, or what, if the owner of an ancient light, he has the power to prevent his neighbour doing, and I think they show very clearly that some such proposals as those now made are very desirable in the interests of all owners of property.

Some of these proposals appear to me to demand consideration.

That part of the preliminary proposition which provides that no right may be acquired to an extraordinary amount of light for special purposes, would most certainly have been the subject of animadversion on the part of those members of the community who habitually use light for special purposes, such as watchmakers, goldsmiths, precious stone merchants, and those utilising processes necessitating discrimination in the selection of colours, who in some cases might find the amount of light they have enjoyed reduced, much to their disadvantage; but the sting of the proposition is removed by its not being made retrospective, but only to take effect on the acquisition of subsequent rights, and I think upon the whole the proposition is to the public advantage in permitting the utilisation of sites which under the present law may have to remain vacant or only be built upon in a limited way, though in some instances there is no doubt it may be the cause of a certain amount of loss on the part of individuals.

The other part of the first proposition stating that no new rights of light may be acquired, beyond a right to receive light for all ordinary purposes, seems to me somewhat ambiguous, as it may be read either in the limited sense of providing for ordinary light only as an antithesis to extraordinary light, or it may be read as providing that if sufficient light be left for all ordinary purposes there can be no claim even though a substantial and material quantity of the light previously enjoyed be taken away.

If the latter be meant, which I think most likely, then the proposition is far-reaching in its character, and extends to a complete alteration of the law as laid down in many cases, and will permit for the future considerable and material obstruction of light, in cases where the windows have not yet become ancient, so long as, in the opinion of the tribunal, sufficient light be left for ordinary purposes.

It is as well that the full significance of the change should be appreciated, for it would mean that in all cases where a light is less than 19 years old the rule of law affecting it would be much more stringent in favour of the servient tenement than in the case of a light already ancient.

Upon the whole I think the change is to the public benefit, though at the same time I think any change permitting the building of higher buildings and the filling up of spaces now kept open by the existence of the present law of Ancient Lights will not necessarily be an unmixed advantage, as witness the tendency of modern building legislation. Possibly the removal of this restriction upon the right to build may have a sequel in the further strengthening of that legislation, which now bears more lightly upon buildings in settled, closely built over, districts than in new ones.

It is, I think, better that the regulation of buildings in this respect should be a matter of public regulation than of private arrangement, but I am not sure that all property owners will agree with this, or that those most desirous of the proposed change in the law appreciate what the result may be.

The second and third propositions need no recommendation.

The fourth, however, is one which it seems to me needs careful consideration, especially the part of it which provides that no further rights of light shall be acquired by a building erected after 1st January, 1905, abutting upon a way used "as an access to "various tenements," for this, apparently, would give the right to a building owner to absolutely obstruct the whole of the light coming to a window only a few feet away, simply because it happened to be on the other side of a passageway, and the same objection applies to such a right being given to the owner of property abutting upon a public way where that way is narrow, and where, consequently, the same state of affairs exists as I have just described.

It appears to me that if this provision limiting the rights of the owner of an ancient light because it abuts upon a way is adopted at all (I hardly see why such a light should be differentiated from all other lights) there ought to be a provision limiting its operation to cases where the way in question is of a certaim minimum width. Moreover, unless I have read the second proposition and this inaccurately, this one is not needed, as the second would give the owner of each tenement the right to prevent the other from acquiring rights over his property by notice, unless there be some virtue in the words "not at the time servient to some neigh-"bouring tenement" in the second proposition. I think both suggestions need making clearer, but this will doubtless be done in the Bill.

The most important of the propositions referred to, viz., the 5th, is, I think, likely to be very beneficial in its operation.

All of us who have practised in London have had experience of the ease and expedition with which matters concerning party-walls are habitually dealt with under the similar provisions in the party-wall sections of the London Building Act, and I feel convinced there is nothing in the subject of light and air which will render it impossible to do in such cases what has been done, with so much advantage to all concerned, in party-wall cases.

On most of the large London estates the custom now obtains of reserving all rights to light when granting a new lease, leaving questions of light and air arising between different lessees on the same estate to be settled by the arbitrament of the estate surveyor or architect, and on, two such estates with which I am so connected the custom has been found in practice to work admirably. No lessee is hampered by trivial objections, and, on the other hand, a building lessee is not allowed to ride rough-shod over his neighbour's rights, but an opportunity is afforded the estate surveyor of seeing substantial justice done.

It will be observed that by the sixth proposal it is still open to an aggrieved owner of an ancient light to apply to the High Court for an injunction, and the Court has it within its discretion, in cases where it considers justice will not be met by a reference to arbitration to decide what may be done or what compensation should be made, to grant an injunction to prevent the erection of the buildings complained of.

It is in the existence of a tribunal to which, if it appears that the case in question is not of this far-reaching nature, the Courts may have confidence in transferring a settlement of such matters, that the proposals now made have their chief value, and it is in my opinion very clear that one consequence will flow from the existence of this tribunal, viz., that a claimant having no solid or serious claim will hesitate before applying for an injunction, which has been so freely done in the past, when the building owner has so often had to compromise because of the delays to which he would otherwise be subjected, especially as it is now made clear in black and white that if the judge considers an action for an injunction has been commenced unreasonably or unnecessarily he may order the party bringing such action to pay the defendant's expenses and costs on such scale as he may think fit.

In conclusion, I think the proposals made, with some modifications, will, if embodied in an Act, tend to simplify the operations of building and rebuilding, not only in London, but also in the country, without any undue interference with the existing rights of individuals, or with the weal of the body politic, and I trust they may soon be given effect to.

Mr. R. Horsfall (Fellow) said he had great pleasure in proposing a vote of thanks to the author of the Paper. His only regret was that time was so far advanced that it would not be possible to have any lengthened discussion upon it. The question of light and air was a very important one, and one which was becoming more and more serious to those desirous of improving their property, and were restrained from doing so, perhaps, by some small tenement to which ancient lights belonged. He feared that in the north of England some persons had a mania for damage to light and air. In one case within his knowledge the owner of an existing warehouse was perfectly satisfied with the erection of adjoining premises, and expressed his thanks for the way in which white bricks and so on had been used so as not to injure existing lights, but the tenant, who had an unexpired lease of five or six years, claimed for loss of light, as he was obliged to light his rooms with gas, which had never been necessary before. He (Mr. Horsfall) examined the premises and found the lights obscured by the ground glass, and also that they had not been cleaned outside for years. One could almost scrape the dust off, and still the man made the allegation that his lights were seriously damaged; whereas if he had gone to the expense of having his windows cleaned and some reflecting glass put in there would have been no damage at all.

Mr. WILLIAM WOODWARD (Fellow) said it afforded him very much pleasure to second the vote of thanks to Mr. Pilditch for his brief but excellent Paper.

It was, he thought, unwise to attempt to upset an Act of Parliament which worked well in some cases and badly in others, without first taking great care that the interests of persons affected by the amending Act were properly protected. If a man took premises at £500 a year, with certain windows that lighted those premises he possessed all the advantages in connection with them until some other individual—say, for example, the builder of Queen Anne's Mansions in London—came forward and absolutely destroyed the value of those premises.

Those who practised in London knew of such cases, and where these occurred it was generally found that the ancient window had been used for the purpose of watch-making, testing colours, or something of the sort, and it was contended that for years past the window, even if glazed with ground glass had been so used, and that such a window demanded in fact the greatest care that it should not be in the slightest way affected, or the result with some smart solicitor and an equally smart architect, would be an application for an injunction.

The facility with which such injunctions could be obtained had been the cause, in many instances, of the blackmailing to which Mr. Pilditch had referred. The application was made and an injunction granted. The opposing architect knew he had brought his adversary to his knees, and proceeded to tell him that a simple little w.c. or scullery window was worth something like £4,000, and unless he paid that amount the injunction would proceed, and he would be stopped with his building, the completion of which might be of the utmost importance, and so he fell into the hands of thieves. It was not proposed that this Bill should take the place of the existing Prescription Act, but if it provided that appeal which Mr. Pilditch advocated, he quite agreed with him that there would be no reason whatever why all questions of rights of light should not be sent to such a tribunal of appeal, consisting of architects and local surveyors, who would be able to mete out ample justice to both parties. He hoped such a tribunal would be constituted, for he was sure all differences could be settled across a table in a day, or a day and a half, instead of the long-drawn and costly litigation which was so ruinous to the parties.

With regard to clauses in a lease, there was the case of *Wheaton* v. *Maple*, where an action had been brought by an adjoining lessee for rights of light, and it was now law that the Crown and its lessees might take a building up to any height, whether it did or did not affect the adjoining owner. But the freeholders of London took particular care, as Mr. Pilditch said, that one lessee should not injure other lessees on their estate. On the other hand, if the surveyor of an estate found that one was building a reasonable building and that the opposing forces were only objecting on some technical grounds, the work was allowed to proceed, and the adjoining owner ceased to have any ground of action.

Mr. HOWARD MARTIN (Fellow) desired to support very cordially the vote of thanks to Mr. Pilditch for the service he had rendered The Institution in opening this subject for discussion. It was exceedingly important that it should be carefully considered at this stage, because the Council would shortly have to determine whether or not to support the proposal for bringing into Parliament a Bill for altering the existing law. But before the Council could decide that question, it was most important that they should have the advantage of hearing the opinions of surveyors from all parts of the country, and he knew of no better opportunity of doing so than the present.

One difficulty in discussing this question seemed to him to be that the natural bias of surveyors and architects tended in opposite directions. Architects naturally fretted very much under restrictions which hindered them from improving the town in which they practised, by erecting buildings of the heights they thought best, and surveyors, on the other hand, were very jealous of any alteration in the law that affected the rights of property of the persons whose interests they guarded He thought the tendency of legislation to interfere with those rights, very often with most imperfect knowledge of the facts on the part of the legislators, made it important for surveyors to remember that this was part of their functions, and to exercise it carefully.

No doubt the exercise of rights of ancient light was very often exceedingly oppressive and obstructive. He was concerned at present in a case where a person, with merely a technical right to interfere, had caused enormous expense and a great deal of delay by interfering with the progress of important buildings, after everyone who had any substantial right to object had been settled with on very reasonable terms, and he imagined that had been the experience of most surveyors in the large towns in England who had to deal with questions of the kind. They must, he thought, agree that the proposal which Mr. Pilditch had explained for establishing a rapid, cheap, just, and well-informed tribunal for dealing with questions of this kind, and preventing the obstructive and oppressive exercise of rights of ancient lights, would be a most desirable improvement, especially if a rule of law were laid down that no rights of light could be enforced except to prevent a substantial or appreciable injury.

But, on the other hand, he thought it must be remembered that a part of the property a man bought or inherited was the right of light, and it would be no more just to bring in a law to take away this right than it would be to say that a man's property subject to ground rent should be converted into freehold, and instead of paying his ground rent in future he could keep it.

He thought it was important, therefore, not to lose sight of that part of the question. A previous speaker who had very large experience of these cases mentioned the singular fact that when a particular window was threatened, it was always a window where operations requiring an extraordinary amount of light were carried on—just as when a railway takes a little bit of property, it is always *the* little bit which is of most value to the estate.

It was true one constantly came across contentions of that kind, but, on the other hand, there were districts in London and other large towns where trades actually requiring an unusually large amount of light were carried on, such as jewellers and watchmakers and persons dealing in silks, who all wanted an extraordinarily good light, and that light was part of what they paid rent for. It would be no more just to take away that element of value in that property than to take away any other part of it. With regard to the acquisition of future rights, it must be remembered that when buying property one considered what probability there was of lights becoming ancient, and if there were a reasonable probability it seemed to him it would in many cases work an injustice to refuse to the owner (who had bought the property on that understanding) the opportunity of retaining its lights as an absolute right. If the power to prevent anyone acquiring a right of light to the disadvantage of another property, be secured by the simple expedient of the owner of the one property serving notice on the owner of the lights once for all, or perhaps annually, what possible reason could there be for further preventing the acquisition of rights of light?

The proposal to prevent the acquisition of a right by the serving of a notice seemed most excellent; for the necessity to put up an actual screen for the purpose seemed to him to be an absurdity.

Why should we require the legislature to interfere and limit the rights of property in any other direction? If a property were protected against the acquisition of rights against it by anything so simple as a notice, and if, as regarded existing rights, a simple, cheap, rapid, and instructed tribunal were provided for dealing with any matter that might arise, with a rule laid down for the guidance of the tribunal that nothing but substantial injury was to be taken into account, he did not think we should require any further interference with the rights of property as accruing under the Prescription Act.

Speaking for himself, he regarded with jealousy the continual attempts to fritter away the rights of property by Acts of Parliament. It was a simple and easy process and much gratified people who had no property, but it was impossible to say, when once it began, where it was going to end.

The vote of thanks was then put to the Meeting and carried unanimously.

Mr. PILDITCH said there were one or two words that he might add by way of reply, principally on the remarks of Mr. Howard Martin, which seemed to him to be very much to the point.

The proposals now being made (for which he was in no sense responsible, for he was not on the Committee) were twofold. First there was the question of a tribunal, to be practically the same as that under the London Building Act; and with regard to that part of the proposal, he had not heard of any surveyor or architect who objected. He thought it was recognised that it would form an excellent method of getting justice in these cases expeditiously, which was sometimes not now the case in the Courts.

Under the present system, a surveyor or architect might be in the box for a couple of days (as he was recently) trying to explain to the judge what he could have better explained in an hour, say, to Mr. Woodward or Mr. Howard Martin. There was no difficulty so far as architects and surveyors were concerned as to the question of the tribunal. If any objection were going to be raised to that part of the proposal it would not come from their profession, but they would know more about it, perhaps, when their friends the lawyers joined the Committee.

One word as to the other part of this subject, namely, the question of the alteration of the law. On that point he agreed with a good deal that Mr. Howard Martin said. The alteration in the law proposed, so far as he was able to appreciate it, was this: Was a man entitled to have, practically, all the light he had before or were his rights now to be cut down to only as much as might be sufficient for any ordinary purposes? It was not intended to affect any existing rights of light, as he understood it, but was only in the case of obtaining a new right of light that the proposed alteration of the law was intended to take effect, so that no one having an existing right would be interfered with or deprived of the power to sell that right.

It was, however, in the case of a house which had by the passage of nearly, but not quite 20 years, acquired its right to light, where the hardship, if any, would arise.

He had a good deal of sympathy with the train of argument of Mr. Howard Martin with regard to the two methods of restricting the acquisition of right to light. He did not quite see, with him, why two ways were wanted of doing it. It seemed that if one could, by serving notice, prevent a man obtaining rights of light, an alteration of the law was not necessary, but he could not see how, in many cases, the notice was going to work. How was it to be limited? One might say to a neighbour, "I give you notice that you shall never acquire any more "rights of light over my property at so and so, in

"Southampton." That he could understand. But if it was proposed to discriminate or decide in the notice whether a man might go a few feet higher, or to what extent he might go, and in what plane or at what angle, he thought difficulties were likely to arise.

At any rate he should be very glad to see the section in the Act which would put this into legal working order, and he should be interested to see how it was to be done. Possibly, he supposed, it was because it was felt there would be difficulties of this kind in bringing the notice into shape, that the more root and branch method, so to speak, of actually altering the basis of the law was proposed.

Paper 268.
No. 430.

FOURTH PAPER.

THE LIABILITY FOR FARM FIRES CAUSED BY SPARKS FROM RAILWAY ENGINES.

By CHARLES PELL HALL, Professional Associate.

George Langridge (Fellow) in the Chair.

It is frequently said that the legislature can do little to help distressed agriculture.

Perhaps this may be true in the sense of directly promoting an increase in the price of farm produce, but agriculture has an equal claim with other industries to expect that the legislature can and will remove a gross injustice when it exists, and which I hope to show does exist at the present time, from the cause indicated in the title of my Paper.

Fires of considerable extent, involving serious losses to growing crops and plantations, are of more frequent occurrence than most people, not concerned as owners or occupiers of land near a railway, are aware. I suspect that many Members of this Institution have practical experience of the extent of the injuries inflicted, and will be able to add materially to the available information on the subject, and to testify to the necessity for the Bill (a copy of which is appended *) introduced by Mr. Hudson and read a second time in the House of Commons this Session.

In the year 1899, inquiries as to these fires were made in the Beds, Bucks, and Herts district by the Bedfordshire Chamber of Agriculture. These inquiries

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* See page 501.

disclosed twenty-one separate cases of recent fires, some of a very extensive nature, although the amount of loss was not given in all instances.

On the Chenies Estate in Bucks, intersected for less than two miles by the Great Central Railway, no fewer than eight separate and distinct fires to crops, woods, and fences occurred within one month (August, 1899), the damage being well over £120. Repeated representations were made to the railway company, who repudiated all liability, and the owner was legally advised that it was very doubtful whether an action would be successful.

No legal proceedings were taken, and no compensation was paid.

In June, 1900, the Council of the Royal Scottish Arboricultural Society issued a circular to its members and others, inviting particulars of fires caused by railway engine sparks, which resulted in a return of thirty-one fires to crops and plantations, causing an estimated loss of £3,130. Sixteen of the owners or occupiers applied for compensation. The companies denied liability in all cases but one, where they paid £4 "without prejudice"; and in the remaining fifteen cases it was considered useless to apply, after the judicial decisions which had been given in like cases.

Result: Damages, £3,130; compensation paid, £4.

In response to a similar circular issued about the same time by the Central Chamber of Agriculture, the summary of the reports received is as follows: "The "serious and widespread character of the injuries in"flicted upon agriculturists by these constantly occur"ring fires is shown by the fact that those cases of which "details have reached the secretary relate to upwards "of seventy-five separate fires caused by sparks from "railway engines in eleven different counties, namely,

" Cheshire, Devonshire, Hampshire, Hertfordshire, Kent, " Lancashire, Lincolnshire, Northamptonshire, Stafford- " shire, Surrey, and Yorkshire, nearly all the chief rail- " ways in the kingdom being the offenders. In only a " few cases was compensation paid, the railway com- " panies usually refusing to pay compensation on the " ground that they are not legally liable."

Fuller particulars of these fires appear at the end of this Paper.

The fires reported represent, probably, but a fraction of the total number of fires which actually take place in the respective districts, yet they are typical of a large proportion of the country, and the aggregate annual loss must amount to a very large sum, the whole of which falls entirely upon the unfortunate owner of the property destroyed, who is unable to protect himself by any natural or artificial means against the emission of sparks and cinders by passing locomotives; neither can he provide against loss by insurance: so great is the risk considered by the insurance companies that they decline to cover cropping situate within 100 yards of a railway.

It is difficult to realise that occupiers of land adjoining a railway are in such a position to-day, and I propose to trace very briefly the course of the law which has produced that result, and for this purpose I have availed myself of the kind permission of the author, Mr. F. W. Beck, to quote from a paper prepared by him for the Bedfordshire Chamber of Agriculture in 1899.

"In considering the position of the law let us " assume that the fire and the consequent damage has " unquestionably arisen from the escape of sparks from " a locomotive, and assume also that the locomotive is " owned and run by a company carrying on its " business under statutory powers. One of the earliest " maxims which the student of English law is taught is

" '*sic utere tuo ut alienum non lœdas,*' which, freely " translated, means 'it is the duty of every man to so " 'use his own property as not to injure that of others,' " and this may be said to be one of the fundamental " bases of the English law. In practice it is found, " however, that, like many another wholesome moral " and legal axiom, the developments of civilisation and " the refinements of the more complicated forms of " society have obliterated its effect and destroyed its " meaning. Of this proposition perhaps no better illus- " tration could be found than the subject now under dis- " cussion. Broadly applying the maxim, one would be led " to say immediately that a railway company was bound " to carry on its business in such a way as not to do " damage to the property of others, and in this general " principle it may fairly be said that the law concurred " when in 1846, in the first recorded case of a claim " arising for damage to agricultural property by a fire " caused by a passing locomotive (*Pigott* v. *the Eastern* " *Counties Ry. Co.*), it was held that the occurrence of " such a disaster was *prima facie* proof of negligence on " the part of the company and their servants having the " management of their engine, rendering it incumbent " upon them to show that every possible precaution had " been taken to prevent the escape of sparks. In the " judgments in that case Lord Chief Justice Tindall said : " 'The company in this case are entrusted with a power " 'of a very unruly and dangerous nature, namely, fire, " 'and the law compels them to take care that it shall " 'not be injurious to the public,' and Justice Maule said : " 'It is said that what occurred might have happened " 'without negligence; but, without saying that it may " 'not have been done without negligence, there is at all " 'events a very strong presumption raised of negli-

"'gence, and I should think that *sufficient alone to* "'*sustain a verdict.*'"

In 1860, in the case of *Vaughan* v. *Taff Valley Railway Company*, Lord Chief Justice Cockburn said: "If "it be true generally that a person who keeps an animal "of known dangerous propensities, or uses an instrument "from which manifest danger may arise, may be responsible for an injury occasioned by such animal or instrument without proof of negligence; yet when the "legislature has sanctioned the use of a particular means "for a given purpose, it appears to me that that sanction "carries with it this consequence, that the use of the "machine itself for that purpose, provided every precaution which the nature of the case suggests has been "observed, is not an act for which an action lies independent of negligence."

In that case it was found that the railway company had taken all the precautions which science could suggest to prevent their engine emitting sparks, and accordingly the farmer did not succeed.

Observe the difference between the two cases. The first decides that the fact that the fire occurred from sparks coming from the engine is sufficient presumptive evidence to justify a verdict, the second decides that this presumption may be rebutted by showing that every possible precaution had been taken.

The decision in this case was followed (in 1861) in *Freemantle* v. *London and North Western Ry. Co.*, in which the plaintiff succeeded; and it was laid down by Mr. Justice Williams in that case that the company were not only bound in the construction of their engines to employ all due care and skill to prevent mischief accruing by the emission of sparks, but they were bound to avail themselves of all the discoveries which science had put within their reach for that purpose, and as the jury had found that some additional precautions might have been taken the verdict for the plaintiff was upheld. In this case it will be noticed that it was left for the defendants to show that they had taken *every possible precaution.*

In the next case, in 1870 (*Smith* v. *London and South Western Ry. Co.*), the plaintiff also succeeded, but the decision was based upon a side issue, and the judgment contained an important modification of the main contention.

The company cut the hedges by the side of their line and, in a very dry summer, left the trimmings on the bank. A spark from a passing locomotive ignited the trimmings, the fire passed through the hedge across a stubble field, over a lane, and consumed a cottage. The company were held liable on the ground that the leaving of the trimmings was a distinct act of negligence, but in his judgment Mr. Justice Blackburn said: "Where a "railway company is authorised by Act of Parliament to "use locomotive engines and consequently to carry fire "along their line, then, inasmuch as such fire cannot be "carried without some sparks escaping, they are not "responsible for such sparks *unless there be some evi-"dence of negligence.*"

Let us see to what extent the 1846 decision has, so far, been altered :—

1. In 1846 it is held that evidence of a fire occasioned by sparks is sufficient presumptive evidence to justify a verdict.

2. In 1860 and 1861 it is decided that this presumptive evidence may be rebutted by showing that every possible precaution had been taken.

3. In 1870 it is practically laid down that proof of

the emission of sparks is not, of itself, sufficient evidence, and that there must be some other evidence of negligence.

And here the matter appears to rest until 1894, when a case arose which completely altered the attitude of the railway companies with regard to these fires.

This was the case of the *Earl of Shaftesbury* v. *London and South Western Ry. Co.* Damage was caused to a fir plantation by fire, occasioned by sparks from the company's engine. It was proved that the engine was fitted with a patent vortex blast, and it was suggested that this increased the emission of sparks, and it was also proved that it was not fitted with a spark arrester; but the company called a number of engineers who said that spark arresters, although effective in preventing burning fuel escaping, had been abandoned by railway companies generally, because it was found that they affected the working of the engines. The jury found (1) that the fire was caused by something emitted from the engine, and (2) that if a spark arrester had been in use the danger would have been minimised.

Lord Chief Justice Russell of Kilowen held that this was not a finding of negligence such as would entitle the plaintiff to succeed. He said: "The jury have not found "that the absence of a spark arrester was negligence. The "onus lies on the plaintiff of establishing legal liability, "and, as that legal liability rests in this case on proof of "want of reasonable care, it follows that, unless the finding "on the second question (as to the absence of a spark "arrester) amounts to negligence or want of reasonable care, the plaintiff cannot succeed. I think the "finding does not amount to a finding of negligence." The defendants therefore succeeded, the case went to the Court of Appeal, and the decision of the Lord Chief

Justice was upheld. The Master of the Rolls said that the jury must be taken to have found that it would have been better to have used the spark arrester, but that finding did not prove negligence. "They merely found " that the best thing was not done. How could one " engineer be held guilty of want of reasonable skill " when all, or nearly all, engineers agreed with him ?"

The result of these decisions seems to be that it need not be proved that every possible precaution has been taken, but that only such precautions need be taken as are reasonably necessary or desirable in the opinion of the engineers.

It is true that since the decisions in the Shaftesbury case the case of *Twinch* v. *The Great Western Ry. Co.* has been tried at the Berks Assizes, in June of last year, when Mr. Justice Day, in summing up, is reported to have said, "It was perfectly clear that the damage was " caused by cinders escaping from the leading engine ; " and the question was simply, did that arise from want " of reasonable care on the part of the company ? They " had nothing to do with the practice of English or " Scotch railway companies ; whether they were right or " wrong was immaterial ; but if the French or the American " system was more effective, they ought unquestionably " to use it. He attached the utmost importance to what " was done in other countries, because if foreign companies did damage they had to pay for it, and so they " were more likely to study anything which would " protect their own pockets than English companies, " which were worked under a certain system of protection. The time occupied by the Great Western " Railway in making the experiment of a partially " extended smoke box seemed to him utterly inordinate " for an experiment. The defendant company had not

" called the drivers of the two engines, but he thought " the jury must take it, as reasonable men, that one " engine did answer and the other did not."

The jury found for the plaintiff.

The remarks of the learned judge and the verdict of the jury, appear to commend themselves from the common sense point of view, but inasmuch as it is only the decision of a Court of first instance, it is open to the doubt as to whether it would be confirmed on appeal, and it is only safe to assume that the present position of the law seems to establish quite distinctly that, in every case, the onus of proof is now upon the farmer to show that there is actual negligence on the part of the railway company in the way in which their engines are constructed or worked. The difficulty of this position is at once apparent. It is impossible for a plaintiff to give any other than presumptive evidence of negligence without going into the enemy's camp to prove his case. All that he can say is that an engine coming past his crops emitted sparks which caused the fire; but he must go to the company to obtain evidence from them as to the nature and construction of their engine, and as to the precautions, if any, adopted to prevent the emission of sparks; and if he fails to show conclusively that there was actual negligence on the part of the company he fails in his case, because it is for him to prove his case, and if any doubt remains in the matter it is the defendent who obtains the benefit of the doubt. Moreover, the Shaftesbury case establishes that the companies need not adopt every possible precaution to prevent fire, but only such as engineering science deems advisable. What is wanted for the protection of the farmer is to get back to the condition of things which obtained in 1846 and onwards until 1870, and to be able to throw upon the railway companies the responsibility of proving that they have used all possible precautions. The real distinction between the two positions will be recognised by anyone having experience in litigation. If the company failed in satisfactorily proving that they had used every possible precaution—that is to say if there were any doubt in the case—the plaintiff would get the benefit of it and would recover his damages.

It has been suggested that the non-liability of railway companies is justified on the ground that the companies pay unusually high prices for the land on which their railways are constructed, and should not, therefore, be subsequently responsible for damages to their neighbours.

This argument, as most Members of The Institution will agree, is manifestly unsound, inasmuch as the additional price paid by railway companies on acquiring land is because the taking of land is a compulsory and not a voluntary dealing, and covers severance and matters exclusively of that nature, and certainly no amount was ever paid whereby it was intended to compound for the risk of carrying on a business highly dangerous to the lands adjoining it. If such had been the case, surely the very capable advisers of the companies would have been aware of it, and would not have permitted them to pay for damages for which they were considered liable until after the judgment in the Shaftesbury case in the year 1894.

I have the authority of one of the oldest Members of The Institution, who acted on behalf of one of the principal railway companies in the purchase of the whole of the land for the construction of some 52 miles of their main line, beginning about the year 1853, for saying that in negotiating the purchase of the whole of this property, compensation for injury to adjoining land through fires caused by locomotives was never taken into consideration. On the contrary, up to very recent years (about the time of the Shaftesbury case), he had frequently assessed damages on the company's behalf, whose liability was, until then, never questioned.

I think it is indisputable that these fires are markedly on the increase, and that there are two reasons for it, firstly, the greater speed of trains, and the consequently increased forced draught necessary, and secondly, because the companies have taken advantage of their immunity and ceased to take any precautions at all to prevent the emission of cinders and sparks.

Last year the Royal Lancashire Agricultural Society commissioned Professor Hele-Shaw to investigate the question for them, and he reported "that in Lancashire, "where railways pass through agricultural districts, "there are—with possibly one or two accidental exceptions—*no special appliances whatever used on the* "*engines for arresting sparks.*"

On the second reading of Mr. Hudson's Bill, Mr. Bryce said, "This evil, and it is an undoubted evil, arises very "largely from the omission of the railway companies to "take proper steps to secure those improvements in "engines which would prevent sparks and cinders being "scattered. I am afraid the difficulty of proving "negligence under the existing law is practically "deterrent, and makes it really impossible for farmers "to obtain compensation. As between the two interested parties—the railway company, whose plea is "that they have done all they can to avoid negligence—"and the farmer, who is entirely passive in the matter—"I am inclined to think, on the principle of abstract "justice, that the onus of proof ought rather to attach "to the railway company than the farmer. But I do

" not think it necessary to go quite so far as that. I " believe the grievance of the whole question arises from " the fact that the companies rely on the difficulty of " proving negligence, and do not take the proper pre- " cautions which are taken in other countries. I believe " they will not do this unless the liability is thrown " upon them, and therefore, although I do not at all " deny that there is some difficulty in the matter, I " think we should find if this Bill is passed, that the " first thing the companies would do would be to use " those inventions which are used in other countries, and " by way of prevention, more than by way of providing " for damages, we should get rid of this grievance."

Pursuing his inquiries, Professor Hele-Shaw found that " in America the laws as to the responsibility of " railroads for fire damages vary greatly. In some " states, notably in the east, if it is proved that a " locomotive is the cause of a fire, the owner is responsible " for all damages, even though it can be shown they " have the latest design of spark-arresting devices, and " that these were in good condition. In several states " where the laws are framed this way the railroads are " allowed an insurable interest in the property adjoining " their right of way, and this is frequently taken advan- " tage of. In other states, especially in the middle, south- " ern and western states, the latest design, in good order, " generally relieves a company of responsibility, though " frequently the lower and local courts hold otherwise, " and it is necessary to appeal to the higher courts."

The result of inquiries made of 33 American railway companies shows that their practice to comply with the law is that "the extended smoke box" with spark-arresting apparatus is in almost universal use, and is fixed upon 15,000 locomotives.

In the course of a journey across the Continent of America from San Francisco to New York (some 3,000 miles) which I made in June last year, I had an opportunity of noting the efficiency of these appliances and of observing the extremely few cases of fires to be seen, in spite of the great heat and the extremely dry and combustible nature of the growth adjoining the railway tracks.

In Canada, the railway companies are held strictly responsible for damage by sparks, and the Central Pacific Railway engines are fitted with the "extended "smoke box."

In most countries on the Continent of Europe, I believe the laws render the railways responsible, and when that is the case, spark-arresting appliances are always adopted.

I have attempted to show :—

1. That agriculturists are suffering from an injustice caused by railway companies setting fire to their property, and that it is an error to say that they have already been paid compensation for the liability.
2. That those fires are of frequent occurrence and are the cause of serious loss.
3. That the agriculturist is unable to protect himself against these fires and that the law as it stands leaves him no practical remedy.
4. That appliances exist and are satisfactorily used in other countries where the law renders companies liable.
5. That in this country, in consequence of the law, no attempt is made by the railway companies to prevent or diminish the evil.

I fear that this state of things will continue until the onus of proof of negligence is reversed and placed upon the companies, instead of, as now, on the agriculturist.

This the short Bill introduced by Mr. Hudson seeks to do, and I venture to think that it is the only practical remedy for the present grievance, and to predict that if it becomes law farm fires caused by sparks from railway engines will be of comparatively rare occurrence.

In conclusion, I desire to acknowledge my indebtedness for information and assistance to Mr. F. W. Beck, of Luton; Mr. E. H. Godfrey, of the Central Chamber of Agriculture; and Mr. H. Trustram Eve, of Bedford.

APPENDIX.

REPORTS OF FIRES MADE TO THE BEDFORDSHIRE CHAMBER OF AGRICULTURE, 1899.

WESTONING—MIDLAND RAILWAY.—Three fires this year. Evidence as to action of platelayers by instructions from Derby. No redress.

BEDFORDSHIRE.—Large landowner losing many acres of cover and 5,000 trees damaged.

BUCKINGHAMSHIRE.—Large farmer and valuer had eight separate fires this year. Claim sent in to the insurance company and the railway company, who both refused to pay.

HERTFORDSHIRE.—Very bad case, nine acres of standing barley burnt. Tenant and his men saw it happen. Many trains passed that day after the fire, but nothing happened until the same train came back in the evening, which set fire to the remaining crop in the same field seven times. The tenant claimed. Railway company offered some unknown compensation if legal contention would be withdrawn. The tenant has consulted his solicitor.

HERTFORDSHIRE.—Very bad case. Five acres of oats consumed and a good length of hedge. Many acres of stubble burnt, in fact, in one afternoon on about one mile of railway, three shocks of wheat, one shock of oats, and five acres of oats in different fields were set fire to, and would have caused serious damage but for close watching. The fire ran along the stubble 580 yards from the railway, and it was stopped by the tenant within 11 feet of 13 stacks of corn. The landlord, who is an influential man, has the matter in hand, and intends to carry it through.

OAKLEY.—Fire occurred. Tenant wrote and claimed compensation, but obtained no redress.

NEAR BEDFORD.—Three acres of standing hay. Claim made and no redress. At the time (1898) the price of coal was high, and goods engines were burning inferior coal. Fifteen acres of standing hay burnt and 200 yards of hedge, and a stack of hay containing about 20 tons burnt (1899). Up to the present the applicant cannot even get an answer to his claim. Evidence as to instructions to platelayers in this case.

NORTH OF BEDFORD.—Three and a half acres of barley burnt; £30 claimed. The following reply received: "I beg to acknowledge receipt of your letter dated "14th instant, addressed to the manager, which shall "be looked into." It is still being looked into.

NEAR POTTON.—Four fires this year. Considerable damage done to cropping, fences, and trees. No reasonable precautions were taken by the railway company, it is stated.

NEAR CAMBRIDGE.—Was told by a land agent of a case in which the tenant, who was also a dealer, suffered considerably. A claim was made, but payment refused. The appellant threatened to deal with another railway in the neighbourhood, and in consequence of this pressure he was paid.

Hertfordshire.—A Scotch tenant had a fire two or three years ago (but since the Shaftesbury case.) The surveyor came down and the tenant said he would not rest until the whole countryside was stirred up if he did not receive compensation. He also produced a letter from his landlord, who was an extremely influential man, and in the end he received payment.

CHENIES ESTATE.

Fires from Sparks from Railway Engines.

1891, April 24th. Old Hanging Wood.

A fire occurred here, burning about half an acre of rough underwood, and some young stores.

1895, July 11th. Great Green Street Farm.

A fire occurred here, burning about 10 chains of hedge, and about an acre of grazing land.

1898, April 8th. Old Hanging Wood.

A fire occurred, burning about 2 acres of small underwood.

1898, August 24th. Field, David Hawkins.

A fire occurred, burning about 6 acres of oats in shocks.

1898, September 11th. Lodge Farm.

Roadside hedge set on fire, burning about 13 yards.

1899, May 16th. Old Hanging Wood.

A fire occurred, burning about 40 poles ot underwood, and some stores.

1899, August 10th. Great Green Street Farm.

A fire occured near to Currant's Bottom, burning about 28 yards of hedge, and a small piece of grass.

1899, August 15th. Lodge Farm.

A fire occurred, burning about 20 yards of hedge and a piece of oat stubble.

1899, August 23rd. Lodge Farm.

A fire occurred, burning about 136 yards of hedge and scorching about 100 yards of young quick hedge and a large piece of oat stubble.

1899, August 24th. Great Green Street Farm.

A fire occurred, burning about 50 yards of hedge.

1899, August 25th. Great Green Street Farm.

A fire occurred, burning about 150 yards of hedge and a piece of grazing land.

1899, August 25th. Great Green Street Farm.

Another fire occurred, burning about 73 yards of another hedge and a piece of grazing land.

1899, August 27th. Great Green Street Farm.

A fire occurred, burning about 100 yards of quick hedge and a large piece of grazing land.

COMPENSATION FOR DAMAGE TO CROPS, &c., BILL.

Memorandum.

Under the present law all damage caused by sparks from road locomotives can be recovered from the owners of the said locomotives, but railway engines are exempt from this law, and the object of this Bill is to put railway engines and road locomotives on the same footing in this respect.

(1 Edw. 7.)

A BILL

TO GIVE COMPENSATION FOR DAMAGE BY FIRES CAUSED BY SPARKS FROM RAILWAY ENGINES. A.D. 1901.

BE it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:

1. Where damage is caused to crops, hedges, or plantations, by fire arising from sparks emitted from any locomotive engine on railways, the railway company owning such engine, shall, notwith-

standing their statutory powers and rights to the contrary, or the provisions of any special or general Act relating thereto, be liable to pay to the person whose crops, hedges, or plantations have been so damaged the amount of such damage, to be recovered in any court of competent jurisdiction.

2. This Act may be cited as the Compensation for Damage to Crops Act, 1901.

(Bill 12.)

Mr. E. P. SQUAREY (Past-President) said it gave him great pleasure to make a few remarks in proposing a vote of thanks to Mr. Hall for his most excellent and useful Paper. It was most suggestive, and it dealt with a subject that would deserve, and he hoped would receive, most thorough consideration by the Members of The Institution. It extended indeed over a wider area of usefulness than to the Members of The Institution, for it was practically the occupying tenant farmers of England whose interests were concerned in this matter, and in many parts of the country landowners had also a substantial interest where a railway passed through heathy districts, and where in summer they were liable, when sparks were emitted, to fires that might spread over a large area and cause great damage. It was his fortune to be concerned for Lord Shaftesbury in the case Mr. Hall had referred to, and he was present at the trial, and listened with great interest to the extraordinarily able arguments used on either side—both for the plaintiff and the defendant. Previously one had always been under the impression that if a railway company set fire, or was supposed to have set fire, either to a heath, or a woodland, or to crops, that, first of all, it was necessary to establish that it was a spark from the engine which caused that fire, and secondly that it should be conclusively and absolutely proved that beyond that arose the technical question of the means which the railway companies had used in the construction of their locomotives to prevent, as far as human genius could prevent it, the emission of sparks from their engines.

He confessed, having acted for both claimants and for railway companies in those cases, that he had sought to find some escape from the costly and uncertain litigation incident to proving or disproving such cases and the technical surroundings. He did not know that he should have the honour of speaking on the present occasion, and therefore he had not formulated any suggestion, but it had occurred to him that there was a possibility of effecting a special insurance against this class of accident.

In dealing with the equities of the case, just consider the position. The railway company served its notice for the purchase of land compulsorily, and the landowner made his claim under the able guidance of men of the type he saw now around him. The question arose in his mind whether or not the compensation which had been paid to the landlord by the railway company for the right to go through the land was enough to cover the contingent damage to crops of the tenant. It was a matter worth considering. The railway company paid for the land under their compulsory powers, and paid, as was generally believed, fully for that land. The landowner received, say, £200 an acre for his land, including severance and general consequential damage, which covered a very wide area of claim. Was the possibility of fire arising from an engine of the railway company one of the consequential damages which the surveyor took into account in arriving at his claim for actual compensation to which the landowner was entitled?

If consequential damage were covered by the compensation received by the landowner, then it seemed the land itself was reduced in its letting value in consequence of the risk that was to be encountered by the occupier through the running of the trains. If that were the case, did the tenant farmer, when he took his land and treated with the agent for the rent of that land, say, "No, I "will have this land at 15*s.* an acre. I will not give "you 16*s.* an acre because there is a probable risk of "damage to my crops through sparks from the engines. He confessed it was a subject upon which it was difficult to arrive at a conclusion, and although he had not read Mr. Hall's Paper so carefully as he would wish, still he did think, on the principle he had mentioned that it was an open question whether or not a new type of insurance company could not be found to take the risk of the setting on fire of crops by sparks emitted from engines.

He might suggest that the liability was not a large one. On pasture land, except during the time it was cut for hay, there was no risk, and on arable land it would probably only exist for ten days or a fortnight. Now, was it worth while to go to the legislature to meet such cases? He thought landlords had a much stronger case where there were woods and heather exposed for much longer periods, than where the risk was confined to a shorter time, as in the case of arable and pasture land.

Mr. R. F. STURGE (Fellow) said he had much pleasure in seconding the vote of thanks to Mr. Hall for his exhaustive and interesting Paper. It was a subject that occasionally came before land agents as a very serious one. Though he must say he had been fortunate enough not to have many cases of the kind, he thought it would be agreed that some alteration of the law was necessary. It was easy to understand that if the onus were thrown upon the individual to prove that a railway company had not taken all proper precautions, his chance of success was very small. It appeared to him it would not be altogether unreasonable if a railway company were *primâ facie* liable for any damage done, if it could be proved that the damage was due to a spark from an engine, whether they took precautions or not. He felt sure, if that were the law, that all possible precautions would be taken by the companies. Having had some experience both in the purchase and sale of land for railways, he thought he could fully bear out the statement made in the Paper that this liability to damage by sparks from engines was not usually taken into account in the compensation. He could say positively, that acting for landowners in the sale of land to railways, he had never taken that question into account by asking further compensation on that ground, except, of course, in cases where the railway passed near thatched buildings. Then, of course, the rate of insurance on those buildings would be increased, and that was a fair ground for asking for compensation; but further than that he had never gone.

He was afraid that if he or anyone else had done so he would not have met with a very ready response from the other side. He certainly thought that some change in the law was required in the present unsatisfactory state of things, and although in these days there was very little probability of any legislation of the kind being brought about, he hoped an opportunity would eventually be found for it.

Mr. P. F. C. TRENCH (Fellow) said he had only one remark to make, arising out of what Mr. Squarey had said. The Paper dealt with damage to crops, hedges, and plantations, but Mr. Squarey had used the word "heath," of which, in Ireland, there was a very large quantity, and the game in that was a matter of very great value to the landlord, not only if on his own hands, but if he wanted to let the property, and there appeared to be no provision here for heather or heath that was burnt. Whether any amendment could be brought about now he did not know; but it would be very desirable. The same thing would, he thought, apply to Scotland. In Ireland they had also a further difficulty, namely, that there was a great deal of malicious injury done which was often laid to the account of engines.

Mr. SQUAREY desired to add that he had suggested to two railway companies that this difficulty in regard to heath land in the New Forest and similar neighbourhoods could be dealt with by an undertaking of the railway companies to keep 30 yards on each side cut close down. The railway companies seemed disposed to take up the suggestion, but the people about the New Forest did not seem inclined to do so.

Mr. Mark Jeans (Fellow) said there seemed, he thought, to be a great deal of difference of opinion as to the claims set up by owners and occupiers when a railway was coming through property, and Mr. Squarey's remarks suggested to him a particular case in which he was engaged only two or three years ago to meet the company's valuer for a line of railway from Andover to Swindon, and in that case no claim was recognised by the railway company. He distinctly made a claim on account of liability to fire, and said, "My client cannot " insure this property, and is liable to an outbreak at any " time," and he put down a specific sum. He remembered that the other side was loth to admit it, but the result was that in the end they came to a division in settlement of the claim generally, and, without specifically admitting the claim, he considered he had received compensation for it. A curious feature of the case was, that on one of the farms, while the railway was in course of construction, a fire actually did occur, and the farm buildings with farm produce were burnt. That was before the company took it over from the contractor. They secured themselves with the contractor, and the contractor admitted the claim, and the owners were fully compensated by the contractor.

Mr. E. Lywood (Fellow) said it seemed to him as a practical man that the consensus of opinion was that the question of liability for crop fires had hardly been sufficiently considered in estimating compensation at the time of the taking of land. It was regarded as a contingency which was rather remote, and was lost sight of to a great extent, but, by the common law, any man who entered upon an enterprise, whatever it might be, which might be a detriment to others, was liable and was expected to use all possible means to prevent injury to the property of his fellow-men.

From the cases brought before the courts it seemed that railway companies had taken undue advantage of the requirement as to onus of proof. The companies knew well that if they could prove that to a certain degree they had taken reasonable precautions in the construction of their engines they had virtually in most cases a verdict in their favour. He certainly thought that in view of the state of agriculture, not only as affecting tenant farmers but also landowners, and considering the many adverse circumstances against which that great industry had to contend, it was time that some alteration should be made in the law, and that railway companies should by Act of Parliament be forced to make the first move by seeing that their engines were so made as not to be liable to set fire, not only to crops but to plantations and heath lands. He thought landowners were quite justified at the present time in demanding that Parliament should strengthen their position in this respect.

Mr. C. W. GATER (Fellow) said with regard to Mr. Squarey's remarks respecting the 30 yards margin, some three weeks since he happened to have experience of an outbreak of fire in three places from the passing of an engine on the South Western Railway, and the distance in every case, for perhaps a length of 300 to 400 yards, was fully over 50 yards from the engine. There was very little wind at the time, but the line was on a rising incline, and the banks by the side of the road were simple dry herbage with no hedges. He happened to be able to take means for extinguishing the fires, which might otherwise have reached a large straw rick.

Mr. J. J. Bowman (Fellow) said Mr. Squarey in his very pertinent remarks suggested whether the owner of property had not received sufficient compensation when the land was bought to cover the contingencies of fire. He thought that question was easily answered because until a very recent decision railway companies accepted the responsibility, and therefore presumably they thought they had not paid for that contingency. It was only on the strength of that recent decision that the liability was disputed. Two or three railways passed through an estate in Cumberland which he managed, and a portion of the land was left bare for about 30 yards on each side of the railway, for which a sum of £10 per annum was paid. It was a sort of heath or moorland, and this was done by the railway company in order to form a ditch to prevent any fire that might come from their engines. They had since given up that land, and now disputed all liability.

As to insurance, he presumed that ordinary insurance of a crop would cover anything that was burnt, either growing or in stack. He believed if a crop was insured there was no stipulation that it was not to be burnt by sparks from an engine.

With regard to precautions which the railway companies took in construction, he thought it was almost impossible to construct an engine that would not cause fire, and it also seemed to him almost impossible to prove whether they had been careful about it or not. It was always very difficult to prove what had really been the cause of the fire. Personally, he thought the simplest solution of the difficulty would be for the railway companies to accept responsibility, and he thought there would be no difficulty in their insuring themselves against possible fire. As Mr. Squarey suggested, so far as crops were concerned, there were only a few weeks when there was danger, but in spring there was danger to heath land and to plantations.

But, on the other hand, something was to be said for the railway companies, for he had known of instances where the owners of property knew they had the risk of having their plantations burnt, but nevertheless so long as the railway company accepted the responsibility they went on planting, and he knew of a number of cases where railway companies had paid compensation over and over again. He thought that it was very unfair that people should make new plantations where there was really danger of fire occurring, and it seemed to him that the solution of the difficulty would be for railway companies to candidly admit liability and insure themselves.

Mr. W. J. REES (Fellow) said he had received compensation for damage done by railway fires in plantations which were very susceptible to fire, and the railway company had thus admitted their liability. Generally they called on the owner to prove negligence on their part. He believed that railway companies cast the responsibility on their stokers and drivers to see that due precautions, such as the fixing of fireguards were properly made, and these men were able to attest that everything had been done that was necessary, and if that were so it would be almost impossible for the landowner to prove negligence on their part, or to recover damages from them in the face of recent decisions.

He thought the best solution of the question was that suggested by Mr. Squarey, and that railway companies adopt insurance to protect themselves against any damage that might occur along their lines of railways.

As to compensation for this risk, he might say that he had acted in a large number of cases, and had never known of any single instance in which compensation had been claimed for that particular item. The railway company had received that amount of benefit, whatever it might be, and it was not too much to ask them to take the after responsibility of protecting the landowner.

He must admit that the period when damage could be done to crops and pasture land was extremely limited, and such damage was of small extent so far as his experience went; but with regard to heath and plantations it was quite the contrary, and he thought that some Bill should be brought in casting definite responsibility on railway companies, or, failing that, that the landlord should know clearly what the risk was, and should take some steps to protect himself.

He thought Mr. Squarey's remarks were worthy of careful consideration in future compensation cases with which Members might have to deal with.

He would like to add that in Canada, where he was travelling recently, fireguards were taken along the railway throughout the whole length of the line. These guards consisted of either broad dykes or strips of land off which the turf had been removed, so that any sparks falling along the line of railway would exhaust themselves as soon as they reached the fireguard.

He thought it would be found that every insurance company stipulated that the crop insured should be 100 yards from the line of railway.

Mr. W. E. Mills (Fellow) said he represented several estates in Cheshire and Lancashire, which were not so susceptible to fire from passing locomotives as those in this more favoured county, where heath and plantation flourished more than they did in the north, but nevertheless this was a subject of considerable interest to land agents in his district. He had had one or two cases of fires on his estates bearing very closely on points mentioned in Mr. Hall's Paper, and his experience was that the insurance companies would not admit any claim for damage if the crops or cattle, or whatever it might be, were within 100 yards of the railway. A tenant recently came to him and said that some of his growing hay which was within the stipulated distance, had been burnt, and he advised that a claim should be made both on the insurance company and the railway company, although he was afraid there would be no redress. The tenant did so, and as both repudiated liability he again asked what he was to do. He advised that there was still one way open. He might call the attention of the insurance company to the fact that he had several valuable insurances which he might transfer to another office. The next day an agent from the insurance company called, and the claim was paid at once.

Of course that did not affect the legal liability of the insurance company. The claim was paid as a matter of what they called friendship, and not in satisfaction of any legal liability. It was very desirable that some Bill such as Mr. Hudson had proposed should be brought forward, whereby the onus of ascertaining the true cause of damage by the emission of sparks should be laid on the railway company.

He was glad to see that Mr. Hall referred to the report of Mr. Hele-Shaw. He thought that report might be accepted as a very exhaustive inquiry into the subject on which it bore, and if he (Mr. Mills) remembered rightly, the Professor found that not one in fifty locomotives examined was fitted with any apparatus whatever for arresting sparks. If that were the fact, it indicated, he thought, that the railway companies, as previous speakers had said, were evading their responsibility in this matter. If they were bound by the present law (and it had always been understood that if it could be proved they were not provided with proper means they were liable) to provide those means, and the Bill proposed should induce them to do so, he thought agriculturists would have every reason to support the Bill.

He should like also to endorse what Mr. Hall had said as to the difficulty of any plaintiff in any case of this kind proving the negligence of the railway company. It was practically quite impossible for him to go to a railway company and say, "I want to examine your "locomotive engines, I want to know exactly what

" provisions you have taken to arrest the emission of " sparks."

Whether the Bill proposed to remedy that he did not know, for he had not had the opportunity of reading it, but he should, as a land agent, welcome any legislation that would render more simple the means by which a plaintiff in a case of this kind could ascertain whether or no the railway company were using proper means to prevent the emission of sparks.

He was afraid it was not possible to go so far as to put the onus on the railway company, although he agreed with those speakers who desired it, for he was certain that in the majority of cases in which spark damage had occurred (and they must be very numerous) the railway company had not taken precautions to prevent that damage.

The vote of thanks was then put to the Meeting and carried unanimously.

Mr. HALL, in reply, desired to thank the Members present very heartily for the way in which they had received his Paper and for the vote of thanks which had been passed. Mr. Squarey had some little doubt, apparently, as to the frequency and the extent of these fires. He (Mr. Hall) could not agree that there was no risk to pasture land, as he had experience of considerable areas of grass, especially of aftermath, being burnt, and there were also the tenants' fences and gates, which often suffered severely.

It was suggested by Mr. Squarey that the risk might be covered by a special insurance, but if that were possible, by whom should the cost be borne—the railway companies or the agriculturists? The party liable would no doubt choose for themselves between insurance or preventive measures.

He strongly contended that the companies ought to be liable, on the ground that they have not paid compensation for the contingent risk of damage by fire. He had discussed with many old surveyors the question as to that risk having been taken into consideration in settling purchases by companies, and without exception they said such a risk had never been taken into account in their experience, as the companies were liable, and until lately admitted their liability for such damage. He had heard mentioned by Mr. Jeans the first case which had come to his knowledge of a landowner's claim including the risk of damage by sparks, and no doubt that was entirely due to the recent alteration in the law.

If Mr. Squarey's suggestion that the companies might have paid compensation to cover this risk was sound, surely evidence to that effect would have been good enough to produce in court, and would have effectually barred any claims against them for all time; but in the reports of all the cases he had read this question was not alluded to, nor was it referrred to in any of the judgments. It would appear that the companies could not substantiate such an argument, or they would certainly have used it.

Reference was made by Mr, Squarey to *Hodges on Railways.* In that book he (Mr. Hall) found that the general principles adopted by surveyors in assessing compensation were embodied in a series of rules by a Select Committee of the House of Lords who reported in 1845, and Rule 3 runs :—

" The damage must arise by reason of the construc-
" tion of the railway, and not by reason of the working
" of the railway when completed."

No doubt, in early days, landowners' claims for risks of this sort would be barred by Rule 3, and it would confirm the view that owners were not compensated in respect of it.

The Meeting then adjourned.

THE ANNUAL GENERAL MEETING

Monday, June 3rd, 1901.

SIR JOHN F. L. ROLLESTON, M.P. (Vice-President), in the Chair.

The Chairman read the following communication from the President, Mr. John Shaw, who was prevented, by indisposition, from attending the Meeting.

THE COLLEGE, ALL SAINTS,
DERBY.
31*st May*, 1901.

To the Chairman of Annual General Meeting of The Surveyors' Institution.

DEAR SIR,

I very much regret that I have been unable to complete my Presidential duties, as I hoped to have done by, attending at Southampton this week, and by being present at the Annual Meeting on Monday, but I have been compelled to comply with medical advice and cancel all my engagements until I have had a complete rest.

I trust, therefore, that under all the circumstances my enforced absence may be excused.

I can assure you my regret is greatly increased by my inability, personally, to transfer my chain of office to my successor, but I desire to congratulate The Institution on the election of Sir John Rolleston to the Presidential Chair, and to wish him every success. From my long personal knowledge of him I feel sure that his professional ability and high character most eminently qualify him for the important position which he is called upon to occupy as the head of The Institution.

The Report of the Council which will be submitted to the Meeting is I think, in every respect most satisfactory, as it fully confirms the success of The Institution; and the interesting statement as to the completion of the new premises, free from debt, is very gratifying.

I should like to add that I believe The Institution is still greatly indebted to the continuous labours and ability of its excellent staff, particularly to Mr. Penfold and Mr. Rogers, to both of whom I wish to express my grateful personal thanks.

I desire also to thank the Members of the Council for their continuous kindness and courtesy to me, and I am much obliged to all the Members of The Institution for the consideration I have invariably received at their hands.

I remain, dear Sir,
Yours very truly,
JOHN SHAW,
President.

The Report of the Scrutineers, appointed at the Ordinary General Meeting of Monday, April 29th, 1901, under the provisions of Article XLII. of the By-Laws, was read to the Meeting.

The Report declared that the following had been elected a

COUNCIL FOR THE ENSUING YEAR.

President.

SIR JOHN F. L. ROLLESTON, M.P. (*Leicester*)

Vice-Presidents.

ARTHUR VERNON (*High Wycombe*)
FRED. THOS. GALSWORTHY (*London*)
ALBERT BUCK (*Worcester*)
HERBERT THOMAS STEWARD (*London*)

Members of Council.

CHARLES BIDWELL (*Ely*)
RICHARD HORSFALL (*Halifax*)
GEORGE LANGRIDGE (*Tunbridge Wells*)
THOS. TAYLOR WAINWRIGHT (*Liverpool*)
HOWARD MARTIN (*London*)
JAMES STEWART KINCAID (*Dublin*)
ALEXANDER ROSE STENNING (*London*)
ALFRED SAVILL (*London*)
THE HON. EDWARD GERALD STRUTT (*Chelmsford*)
LESLIE ROBERT VIGERS (*London*)
THOMAS BLASHILL (*London*)
GEORGE SPENCER MATHEWS (*Birmingham*)
WILLIAM EDGAR HORNE (*London*)
JOHN FARRER (*Leeds*)
WILLIAM EDWARD WOOLLEY (*Loughborough*)
THOMAS BINNIE (*Glasgow*)

Professional Associates of Council.

JOSEPH HENRY SABIN (*London*)
ARTHUR NORMAN GARRARD (*London*)

Associates of Council.

THE RIGHT HONOURABLE LORD ALVERSTONE, G.C.M.G.
SIR JOHN WOLFE BARRY, K.C.B.

The Report of the Council on the affairs of The Institution, and the Statement of Receipts and Expenditure for the year 1900 were read.

IT WAS RESOLVED—"That the Report of the Council and the Balance Sheet be received and approved, and be printed and circulated with the *Transactions*."

IT WAS RESOLVED—"That the thanks of The Institution be given to Messrs. H. C. NEWMARCH and C. P. HALL for the efficient performance of their duties as Auditors, and that they be requested to continue their services for the ensuing year."

IT WAS RESOLVED—"That the thanks of The Institution are due and be given to the President, Vice-Presidents, and other Members and Associates of the Council, for the able manner in which they have administered the affairs of The Institution."

IT WAS RESOLVED—"That the thanks of The Institution be given to Mr. JOHN WORNHAM PENFOLD (the Honorary Secretary), to Mr. JULIAN C. ROGERS (the Secretary), and the other officers of The Institution, for the able manner in which they have executed their several duties."

THE PRESIDENT presented the following Prizes won by Candidates in the Professional and Preliminary Examinations, 1901:—

THE INSTITUTION PRIZE OF THE VALUE OF £15 15*s.*

to MONTAGUE PRICE HOLMES, placed first in the Students' Proficiency Examination, 1901.

THE SPECIAL PRIZE OF THE VALUE OF £10 10*s.*

to FREDERICK STANLEY DANIELL, placed second in the Students' Proficiency Examination, 1901.

THE "CRAWTER" PRIZE OF THE VALUE OF £10

for the best work in the subject "Principles and Practice of Valuation" in the Fellowship Examination, 1901,

to HERBERT ANDREW CROMARTIE WARMINGTON.

THE PENFOLD GOLD MEDAL

for the highest number of marks (over 75°/ₒ of the maximum) in the Fellowship Examination, 1901,

to William Edward Trent.

THE "DRIVER" PRIZE OF THE VALUE OF £15

for the highest number of marks in the Examination, 1901, for Non-Student Candidates for the Class of Professional Associates,

to David Llewellyn Paton,

AND

THE PENFOLD SILVER MEDAL

for the highest percentage of marks (over 75°/ₒ of the respective maxima) in the Two Divisions of the Professional Associateship Examination, 1901, to the same Candidate.

THE "PRELIMINARY PRIZE" OF THE VALUE OF £2 2*s*.

for the highest number of marks in the Preliminary Examination in January, 1901, to

W. Cecil Clemens
and
Arthur Salwey
} bracketed equal.

It was resolved—

> "That the thanks of the Meeting be given to Messrs J. H. Mellinfield, G. H. Mould, A. Roods, and H. Little, for their services as scrutineers."

A vote of thanks to Sir John Rolleston for his conduct in the Chair was carried unanimously.

The proceedings then terminated.

THE THIRTY-THIRD

ANNUAL REPORT OF THE COUNCIL.

Annual General Meeting, June 3rd, 1901.

The following facts and statistics, based on a general review of the work of the past year, speak for themselves, and may be taken as affording very satisfactory evidences of continued prosperity.

It is not to be expected that the Membership of The Institution should continue to increase at the rapid rate which marked its earlier days. It is probable that it now includes most of the surveyors of standing in the United Kingdom.

TABLE A.

	Honorary Members.	Fellows.	Professional Associates.	Associates.	Students.	Colonial Fellows.	Total.
May 1901	17	1883	834	89	364	13	3200
May 1900	17	1883	757	88	336	15	3096
	—	—	+77	+1	+28	−2	+104

The number of Fellows remains the same as last year, the losses by death and resignation (44) being balanced by 8 elections and 36 transfers from the class of Professional Associates. The class of Professional Associates has been added to by 128 elections, but against this figure must be set 44 transfers to the Fellowship and 7 losses by death or cessor of Membership, making the net gain in this class 77, as shown above.

Three new Associates were elected, but there was a loss of 2 by cessor of Membership.

The number of students was increased by 118 enrolments, while 44 ceased to be students by effluxion of time, 7 died or resigned, and 39 were elected to the Professional Associateship, thus making the net increase in this class 28. Two Colonial Fellows died during the year.

The Institution has lost by death during the year some of its oldest and most respected Members, among them Mr. Arthur Cates, a man of the highest eminence in the profession; Mr. John Cross of Manchester, who served on the Council of The Institution from 1890 to 1895, and took a large share in the successful launching and subsequent working of the Counties Palatine Provincial Committee; another old and valued colleague, Mr. Edward Smyth, who served for 13 years on the governing body of The Institution, and acted as unpaid Examiner in one of the most difficult and exacting subjects for nearly 20 years; Mr. Jacob Wilson Fair, a leading land agent, who was held in the highest esteem throughout the profession, and who served on the Council for several years, and also rendered valuable services as Provincial Chairman for his district; Mr. J. K. Fisher of Market Harborough, one of the most respected land agents in the Midland Counties, who acted for several years as Chairman of the Leicester, Northampton, and Rutland Committee; Mr. T. D. Smellie of Glasgow, one of the oldest Members of The Institution in Scotland, being one of the first 150 to join it in 1868; Mr. J. W. Kemsley, who was well known in connection with agricultural subjects; and Mr. Joseph Goddard, an architect and surveyor of eminence in the Midland Counties. Obituary notices of these and other deceased Members will be found appended to this Report.

The increase of Membership in the various classes, from year to year, is shown by the following table :—

TABLE B.

	Members (or "Fellows" after 1881).	Associates.		Students.	Total.
		Professional.	Ordinary.		
May 1869 ...	162	38		2	202
" 1870 ...	180	59		2	241
" 1871 ...	190	65		2	259
" 1872 ...	205	67		4	276
" 1873 ...	225	74		5	304
" 1874 ...	247	89		6	332
" 1875 ...	275	101		11	387
" 1876 ...	300	119		8	427
" 1877 ...	310	133		11	454
" 1878 ...	312	134		8	454
" 1879 ...	330	146		10	486
" 1880 ...	342	155		10	507
" *1881 ...	357	164		14	535
" 1882 ...	480	235		7	722
" 1883 ...	557	218	74	38	887
" 1884 ...	666	307	80	58	1121
" 1885 ...	703	317	86	86	1192
" 1886 ...	716	316	84	80	1196
" 1887 ...	741	339	89	108	1277
" 1888 ...	798	333	90	102	1323
" 1889 ...	910	334	89	110	1443
" 1890 ...	1095	310	89	123	1617
" 1891 ...	1374	336	96	140	1946
" 1892 ...	1646	342	97	172	2268
" 1893 ...	1629	353	93	181	2269
" 1894 ...	1626	381	84	204	2309
" 1895 ..	1629	430	83	210	2352
" 1896 ..	1802	465	86	220	2573
" 1897 ...	1808	540	84	252	2684
" 1898 ...	1835	615	85	272	2807
" 1899 ...	1887	686	84	308	2965
" 1900 ...	1883	757	88	336	3064
" 1901 ...	1883	834	89	364	3170
			Honorary Members		17
			Colonial Fellows		13
				Grand Total	3200

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* Since August, 1881, "Members" have been designated "Fellows" and in 1883 "Associates" were divided into "Ordinary" and "Professional" Associates.

FINANCE.

The amount received during the year in Fellows' Subscriptions was practically identical with that of last year, while the Subscriptions of the two classes of Associates and Students show together an increase of slightly over £150.

The amount received for "Hire of Rooms" was about £100 more than last year.

In Fellows' Entrance Fees there was a decrease of nearly £150, and in Professional Associates' Entrance Fees an increase of about £60.

"Dividends," as might be expected as the result of sales of stock during 1899 to meet payments to the contractors, show a decrease of about £158 during the year.

On the Expenditure side of the accounts, the publication of the *Transactions* shows an increase of £280, of which £100 is represented by the setting up of the List of Members in new type.

"Rates and Taxes" show an increase of about £140. It may be explained, however, that these (including Corporation duty) were paid on a reduced scale during the construction of the new building.

The apparent decrease in the amount of "Rent" between the years 1899 and 1900 is due to the fact that during part of the former year The Institution was paying rent in Savoy Street in addition to the ground rent in Great George Street.

The final instalments on the building contract paid during the year amounted to over £3,000, more than half of which was paid out of current balances, and it is hoped that it will be possible to get through the present year without further sales of stock to replace this amount.

The following is a summary of Receipts and Payments on Capital and Income Accounts for the year ended December 31st, 1900.

TABLE C. SUMMARY.

RECEIPTS.	£	s.	d.
Revenue Balance in hand, January 1st, 1900 . .	379	7	8
Total Revenue . . .	8,926	17	6
Interest	321	2	4
Loan (Bank) . . .	1,500	0	0
	£11,127	7	6

EXPENDITURE.	£	s.	d.
Total Payments out of Revenue (Current Expenses)	7,819	17	8
Final Payment on Account of the Building Contract .	2,655	0	8
On Account of Architect's Commission	349	17	6
Incidental Expenses connected with the New Building	26	5	0
Balance in hand, December 31st, 1900 . . .	276	6	8
	£11,127	7	6

THE INVESTMENTS.

The total Investments, at the date of this Report, are as follows:—

Accumulations Account.

£3,545	4	9	$2\frac{3}{4}$ per Cent. Consols
4,500	0	0	New South Wales $3\frac{1}{2}$ per Cent. Stock.
2,006	0	0	London and North Western Railway 3 per Cent. Debenture Stock.

Library, Forestry, &c., Account.

1,900	0	0	$2\frac{3}{4}$ per Cent. Consols.

Prize Endowments Account.

503	1	11	India 3 per Cent. (on account of the Penfold Gift).
247	4	0	Midland Railway 2½ per Cent. Debenture Stock (on account of the Beadel Bequest).
254	0	0	North British Railway No. 1 Preference Stock (on account of the Crawter Bequest).
413	16	8	2½ per Cent. Annuities (on account of the endowment of the Daniel Watney Forestry Prize).
440	10	8	India 3½ per Cent. (on account of the Driver Bequest).

The total Investments, calculated at current prices, represent a sum of £13,724 19*s.* 0*d.*

THE BENEVOLENT FUND.

The Benevolent Fund, although outside the general organisation of The Institution, originated with the Council, and therefore calls for some reference in this Report. The support it has received during the fifteen months since its establishment, while not inconsiderable as regards amount, is not very satisfactory as regards the number of subscribers. As the Committee of the Fund have already intimated in a circular to the Members, the amount received is a little over £7,100, one-half of which has been subscribed by 16 Members and 74 per cent. by 44 Members, while the total number of contributors falls considerably short of 300 out of a possible 2,800,

The Incorporation of the Association by licence of the Board of Trade secures it from any possible diversion of its funds from the purposes for which they are intended.

The Council urge the Members to give the Fund a much wider measure of support (either in the form of donations, annual subscriptions, or bequests) than it has hitherto received.

EXAMINATIONS.

The number of Candidates who have year by year been examined, and the numbers who have succeeded in passing the Preliminary and Professional Examinations are shown in the following table:—

TABLE D.

Years.	Preliminary Examinations.			Professional Examinations.		
	Candidates.	Passed.	Percentage.	Candidates.	Passed.	Percentage.
1881	13	6	46·15	2	1	50·00
1882	30	17	56·66	—	—	—
1883	44	22	50·00	25	22	88·00
1884	51	30	58·82	36	23	63·89
1885	46	37	80·43	43	31	72·09
1886	46	34	78·26	56	38	67·85
1887	53	39	73·58	58	45	77·59
1888	48	39	81·25	73	52	71·23
1889	51	41	80·39	71	51	71·83
1890	53	44	83·01	96	70	72·91
1891	76	60	78·94	92	68	73·91
1892	83	64	77·10	125	93	74·40
1893	77	57	74·00	149	100	67·11
1894	97	66	68·00	182	129	70·87
1895	121	80	66·11	196	141	71·93
1896	117	78	68·37	212	143	67·45
1897	133	91	68·42	236	151	63·97
1898	127	95	74·80	265	169	63·77
1899	145	112	77·25	290	184	63·44
1900	131	102	77·86	325	193	59·38
1901	142	111	78·45	362	246	67·95
TOTALS	1,684	1,225	72·74	2,894	1,950	67·34

The 362 Candidates who sat for the different Professional Examinations in March, 1901, include 53 Candidates who, having in a previous year passed in the Examination as a whole, but failed in passing their "typical" subject, were required, in order to complete the Examination qualifying for Election to the class

of Membership for which they desired to enter, to come up again in the "typical" subject appertaining to their Division and Sub-division.

The number of these Candidates was, in the Land Agency Sub-division 7, all of whom passed, in the Valuation Sub-division 29, of whom 21 passed, and in the Building Sub-division 17, of whom 10 passed.

The number of Candidates who, while obtaining the requisite pass marks in the Examination as a whole, failed to pass in their "typical" subject, and were therefore referred back to their studies in that particular subject, was 33.

SCOTTISH AND IRISH EXAMINATIONS.

As was the case last year, Professional Examinations were held contemporaneously with the English Examinations, both in Scotland and in Dublin, adjusted as far as possible to special features of practice in those parts of the United Kingdom.

Seven Candidates presented themselves in Dublin—4 for the Associateship and 3 for the Fellowship. All these Candidates passed.

Four Candidates presented themselves in Scotland—2 in the Land Agency Division of the Associateship Examination, 1 in the Land Agency Section, and 1 in the Building Section of the Fellowship Examination. These 4 Candidates all passed.

The Irish Papers are set and adjudicated on in Dublin, after being approved by the Council.

In the case of Scotland 14 of the Examination Papers were set and dealt with by the Scottish Committee, the remaining Papers being identical with those used in England. The cordial thanks of the Council are due to those Scottish Members who devoted so much time and ability to the work of the Examinations, and it is hoped that their labours have resulted in the establishment of the system on a sound footing north of the border.

The following table indicates the distribution of the Candidates among the various Divisions and Subdivisions, the numbers being exclusive of the 53 "Typical" Candidates who were this year re-examined, and of whom 38 completed their examination by obtaining pass marks.

TABLE E. EXAMINATIONS, 1901.

	Sub-Division I. Land Agency.			Sub-Division II. Valuation.			Sub-Division III. Building.			Total Maximum Marks.	Marks obtained.	Percentage of Marks obtained.	Percentage of Candidates who Passed.
	Entered.	Passed.	Referred Back.	Entered.	Passed.	Referred Back.	Entered.	Passed.	Referred Back.				
DIVISION II. Student's Proficiency Examination	28	25		30	22	5	12	9		70,000	42,242	60·38	80·00
DIVISION III. Direct Examination for Professional Associateship	40	31		52	21	14	45	30	1	164,400	100,681	61·24	59·86
DIVISION IV. Examination qualifying Associates for Fellowship	33	30		40	27	9	19	11	3	92,000	56,147	61·02	86·00
DIVISION V. Direct Fellowship Examination	2			6	5		2		1	15,000	9,082	60·54	50·00
	103	86		128	75		78	50		341,400	208,152	60·97	67·25

This table includes the 7 Irish Candidates and 4 Scottish Candidates.

THE PRIZES.

The "Institution" Prize of the value of 15 guineas was awarded to Montague Price Holmes, a "Valuation" Candidate in Division II., who obtained 794 out of a possible 1,000 marks.

The "Special" Prize of the value of 10 guineas was gained by Frederick Stanley Daniell, a Candidate in the "Valuation" Sub-division of Division II., with 765 out of a possible 1,000 marks.

The "Crawter" Prize, awarded for the best work in the subject "Valuations" by a Candidate in Division IV., was awarded to Herbert Andrew Cromartie Warmington, who obtained 86 per cent. of the possible marks.

The "Penfold" Gold Medal was this year won by William Edward Trent, who, in the "Building" Subdivision of Division IV., headed the list of Fellowship Candidates with a total of 802 out of a possible 1,000.

The "Penfold" Silver Medal, given to the Candidate who, in either Division II. or Division III., obtained the highest proportionate number of marks, was awarded to David Llewellyn Paton, a Candidate in Sub-division II. of Division III., who also gained

The "Driver" Prize of the value of £15, awarded to the Candidate heading the list in the Division III. (direct Professional Associateship) Examination. This Candidate obtained 976 out of a possible 1,200 marks.

The "Daniel Watney" Prize of £10 was awarded in connection with the Special Certificate Examination in Forestry to Leslie Stuart Wood.

For the "Preliminary" Prize Messrs W. C. Clemens and A. Salwey were bracketed equal at the head of the list in the Studentship Examination with 468 marks out of a possible 500, and a " Preliminary " Prize in connection with that Examination was awarded to each.

THE EXAMINERS.

The Council ask the Members to again join them in according hearty thanks to the Honorary Examiners, who have undertaken the onerous duty of setting the Papers and awarding the marks in many of the most important subjects.

Among these, outside the ranks of the Council, many of whom undertook to act as Honourary Examiners, special thanks are due to His Honour Judge PHILBRICK, K.C., Mr. E. J. CASTLE, K.C., Mr. J. W. WILLIS BUND, Mr. H. A. RIGG, and Mr. R. F. COLAM, who undertook the Legal Papers, and Mr. F. LEE, Mr. C. JOHN MANN, Mr. J. W. PENFOLD, Mr. E. B. I'ANSON, Mr. W. EVE, Mr. GILBERT MURRAY, Mr. A. L. RYDE, and Mr. F. W. D. THEOBALD. Special thanks are also due to Mr. W. FRASER of Glasgow, who took upon himself most of the work of organising and carrying through the Professional Examinations in Scotland.

SPECIAL CERTIFICATE EXAMINATIONS.

For some years past the Special Certificate Examinations have fallen into abeyance, the number of Candidates who offered themselves being too small to justifiy the expense involved. In consequence of representations that the uncertainty as to the holding of these Examinations, in any particular year, discouraged entries, the Council determined to hold these Examinations in 1900, irrespective of the number of applications for admission, with the following result. Three Candidates entered for the Forestry Examination and three for the Examination in Sanitary Science, of whom one Candidate, in Forestry, failed to present himself.

Of the five who actually came up, two Candidates in Forestry and two in Sanitary Science, satisfied the Examiners.

It is hoped that this result will encourage a larger entry in future years.

The Examinations will be held again this year, but the Council have decided that in future they shall be held triennially.

THE DEATH OF QUEEN VICTORIA.

The year under review has been marked by a great national sorrow, in the death of Her Gracious Majesty Queen Victoria.

Alike as loyal subjects, and as members of a body which Her late Majesty honoured by the grant of a Royal Charter of Incorporation, the Council felt it incumbent on them to prepare and forward the following address to His Majesty King Edward VII., which was approved and affirmed by the Members in General Meeting assembled, on February 11th 1901.

"To the King's Most Excellent Majesty.

"THE HUMBLE ADDRESS OF THE PRESIDENT, COUNCIL,
"AND MEMBERS OF THE SURVEYORS' INSTITUTION
"(INCORPORATED BY ROYAL CHARTER).

"We, the President, Council, and Members of The "Surveyors' Institution in General Meeting assembled, "respectfully approach Your Majesty with an expression "of heartfelt grief at the great calamity which has "befallen the whole Empire in the death of our Beloved "Sovereign Queen Victoria, and of our gratitude for the

" blessings which the Nation has enjoyed for the past " sixty-four years under the influence of Her exalted " character and noble example.

" While thus expressing to Your Majesty and the " Royal Family our respectful sympathy we desire to " offer our sincere congratulations on your Majesty's " accession to the Throne of the Empire, and an assurance " of our loyalty and devotion."

The following gracious reply from His Majesty has been received through the Secretary of State for the Home Department.

" Home Office,
" Whitehall,
" 29th March, 1901.

" Sir,

" I am commanded by the King to convey to you " hereby His Majesty's thanks for the Loyal and Dutiful " Address of the President, Council, and Members of The " Surveyors' Institution, expressing sympathy on the " occasion of the death of Her late Majesty Queen " Victoria, and congratulation on His Majesty's Accession " to the Throne.

" I am, Sir,
" Your obedient Servant,
" CHAS. T. RITCHIE.

" The President of
" The Surveyors' Institution,
" 12, Great George Street, S.W."

PROVINCIAL COMMITTEES.

The following table gives the numbers of Fellows composing the several Provincial Committees, with the names of their respective Chairmen.

TABLE F. PROVINCIAL COMMITTEES.

	Committee.	Chairman.	Number of Members.	Date of Expiration of Chairman's Year of Office.
A[1]	Northumberland and Durham	T. J. Armstrong	27	April.
B	Cumberland and Westmoreland	F. Punchard	20	April.
C	Counties Palatine	Henry Hartley	93	June.
D	Yorkshire	J. H. Hanson	79	May.
E	Salop and Hereford	H. J. Wyley	31	May.
F	Derby and Stafford	H. G. Duncalf	38	May.
G	Nottingham and Lincoln	S. Kingston	39	May.
H	Monmouth and South Wales	R. Forrest	31	May.
I	Warwick and Worcester	Col. G. Raikes	58	June.
J	Leicester, Northampton, and Rutland	C. G. Bolam	42	May.
K	Cambridge, Huntingdon, Norfolk, and Suffolk	J. Looker	47	May.
L	Berks, Bucks, and Oxon	A. Lawrence	41	April.
M	Beds, Essex, Herts, and Middlesex	Hon. E. G. Strutt	49	May.
N	Devon and Cornwall	A. Michelmore	45	April.
O	Somerset, Glo'ster, and North Wilts	E. M. Hippesley	45	April.
P	Hants, Dorset, and South Wilts	F. J. Smith	91	May.
Q	Kent	G. Langridge	73	May.
R	Sussex	J. Woodhams	38	August.
S	North Wales and Radnor	J. E. Poundley	18	May.
T	Irish Land Agents' Committee	A. H. Wynne	180	March.
U	Scottish Committee	T. Binnie	85	Jan.

COUNCIL AND COMMITTEE MEETINGS.

The following Table shows the Attendances at Council and Committee Meetings from May 7th, 1900, to April 15th, 1901 (both inclusive).

NAMES.	Total Council Attendances.	Total Committee Attendances.	Total Council and Committee Attendances.
MEMBERS.			
Bidwell, C.	2	2	4
Blashill, T.	7	5	12
Buck, A.	9	0	9
Drew, H.			
Farrer, J. (*Elected November*, 1900) ...	1	0	1
Galsworthy, F. T. ...	5	14	19
Horne, W. E.... ...	9	2	11
Horsfall, R.	4	2	6
†Kincaid, J. S. ...	2	1	3
Langridge, G. ...	11	5	16
Martin, H.	12	15	27
Mathews, G. S. ...	5	1	6
Rickman, T. M. ...	7	11	18
Rolleston, Sir J. F. L., M.P.	7	0	7
Savill, A.	4	5	9
Shaw, J.	12	5	17
*†Squarey, E. P. ...	1	0	1
Stenning, A. R. ...	10	11	21
Steward, H. T. ...	11	2	13
Strutt, Hon. E. G. ...	12	8	20
*†Sturge, W.			
Vernon, A.	10	4	14
Vigers, L. R.... ...	14	16	30
*†Vigers, R.	4	17	21
Wainwright, T. T. ...	1	0	1
*†Watney, D.	7	9	16
PROFESSIONAL ASSOCIATES.			
Garrard A. N. ...	13	10	23
Sabin, J. H.	15	21	36

* Ex-officio Members of the Council.

† Representing the Irish Land Agents' Committee.

The New Premises.

The time has arrived when the Council are able to place the Members in possession of all the facts relating to the re-housing of The Institution, and, in doing so, they avail themselves of the opportunity of recording, in the briefest possible form, the various steps taken for the purpose.

Soon after the building of the old Lecture Hall in 1872, it became apparent that a much more comprehensive scheme would shortly have to be considered, should the Society continue to grow and prosper.

Some additional accommodation was secured, in the spring of 1886, by the acquisition, on lease, of the house in Little George Street numbered 13A, which enabled the Council to defer rebuilding on a large scale until, by careful administration of the finances, they had the command of a sufficient sum to justify them in incurring the large outlay which would be involved.

For a time there was a prospect that the re-housing of The Institution would be effected, on favourable conditions, under clauses inserted for the purpose in the several Westminster Improvement Bills, but, after many vicissitudes, these Bills came to nothing, owing to the intervention of the Government, who took the question of the widening of Parliament Street into their own hands.

Early in 1894 the Council felt that action could no longer be deferred. With the growth of the membership and the general enlargement of the scope of the work carried on by The Institution, the accommodation had become totally inadequate. The Lecture Hall was frequently overcrowded, and the extension of the Library was completely stopped for lack of shelf room, while the want of reading and other rooms for general use was much felt by the Members.

Negotiations were consequently opened with the Ecclesiastical Commissioners, with a view to the acquisition of the two remaining houses in Little George Street, but, on consideration, the Council deemed it advisable to carry out the larger scheme of acquiring the whole block (including the corner house, No. 13, Great George Street), which would provide a site amounting in the aggregate to a little over 6,700 superficial feet. The rents received by the Commissioners for the five houses on this site, including the two already occupied by the Institution, amounted to £1,070 per annum, but after protracted negotiations, conducted with great skill by the late Mr. Arthur Garrard and Mr. H. T. Steward, an agreement was finally arrived at, by which the Institution was to be granted the lease of the whole site for 999 years at a rental of £1,000 per annum, subject to an undertaking to rebuild the whole block according to plans to be approved by the Commissioners.

Before doing so, it was necessary to buy up the intermediate lease of the house No. 4, Little George Street, which was effected for a sum of £750.

It was evident from the sketch plans prepared by Mr. Steward for the use of the Building Committee that a great improvement in the appearance of the new building would result from the removal of the archway and superstructure which spanned the northern end of Little George Street, one-half of it appertaining to No. 14, Great George Street, and an agreement was come to with the adjoining leaseholders, under which they surrendered their interest on consideration of a payment of £500 towards the cost of rearranging the west side of their building.

It may here be mentioned that the Council had, somewhat earlier, redeemed the land tax payable in respect of one of the houses for a sum of £247 16s. 2d. thus freeing the whole site.

By September, 1895, the terms of the new lease were formally agreed upon, and designs, based upon the sketch plans prepared by the Building Committee, were invited from several eminent architects, four premiums of one hundred guineas each being paid in connection with the competition. Ultimately the designs of Mr. Alfred Waterhouse, R.A., were accepted, and immediate steps were taken to obtain tenders for the work. These varied from £31,610 to £27,772, the latter, that of Messrs. Foster and Dicksee, of London and Rugby, being accepted. The amount was increased later on by additional payments of £700 in respect of the employment of a special stone of greater durability than that at first specified, and by a sum of £950 for extra foundations, necessitated by the treacherous nature of the subsoil.

The contractors undertook to complete the building in fifteen months, but owing to a number of delays arising from various causes the building was not handed over for occupation until May, 1899—two years and eight months after the signing of the contract.

The following is a brief summary of the expenditure on the new building:—

Contract	27,772 0 0	
Extra for Stone	750 0 0	
Extra for Foundations	950 0 0	
		29,472 0 0
Balance of Extras and Omissions		865 12 9
Making a total of		£30,337 12 9
To this must be added—		
Architects' Premiums	420 0 0	
Architect's Commission	1,549 17 6	
Clerk of Works	505 11 4	
Law Charges *re* 4, Little George Street.	115 14 0	
Purchase of Archway	520 0 0	
Purchase of Lease of 4, Little George Street	750 0 0	
		3,861 2 10
		£34.198 15 7

It may be mentioned that the outlay on new furniture and fittings amounted approximately to a sum of £1,000.

It will be satisfactory to the Members to know that the whole outlay has been met out of accumulated funds, and that no debt whatever remains upon the building.

Everything points to the fact that the policy of rebuilding on a comprehensive scale has resulted in a great increase of prestige to The Institution, while from the point of view of material advantage it cannot be doubted that it has become the owner of a property which will in time acquire a greatly increased value, owing to the growing scarcity of building sites in the City of Westminster.

Before leaving this subject, the Council desire to record their great debt of obligation to their colleagues on the Building Committee, who placed their time and experience so ungrudgingly at the service of The Institution.

Four of them (Mr. Thomas Chatfeild Clarke, Mr. Arthur Garrard, Mr. Charles John Shoppee, and Mr. D. Cubitt Nicholls) are, unhappily, no longer with us. All of them were identified with the earlier stages of the work and with the preparation of the original sketch plans. To the other Members of the Committee, Mr. Howard Martin, Mr. Thomas Miller Rickman, Mr. A. R. Stenning, Mr. Herbert Thomas Steward, Mr. Arthur Vernon, Mr. Robert Vigers, and Mr. Daniel Watney, the thanks of the Members are due for their zealous labours in connection with the successful carrying out of the work, and for the large amount of personal attention they gave to it.

THE PUBLICATIONS.

Another volume of the *Transactions* (the thirty-third of the series) is on the point of completion. It does not fall short in interest, though somewhat in variety, as compared with previous volumes. The two Papers by Mr. Middleton and Mr. Blashill gave rise to prolonged discussions, which occupied six out of the twelve meeings, but as both Papers dealt with subjects of the greatest interest to most of the Members, it was found impossible to compress the two discussions within narrower limits.

Three parts of the *Professional Notes* have been published since the last Report, and another part, completing the tenth volume, is now in the press. The Council are constantly receiving assurances of the great utility of the *Notes* for the purposes of reference for which they are designed. It will be observed that a great expansion has taken place in the section of the *Notes* devoted to Queries and Replies, showing the growing appreciation of this ready means for the exchange of professional knowledge between the Members in all parts of England. The Council are under the greatest obligation to those who have evinced so much readiness to furnish replies to questions which are often of great difficulty and complexity.

THE SOUTHAMPTON MEETING.

The Council accepted, with the greatest pleasure, the invitation of the Members of the Hants, Dorset, and South Wilts Provincial Committee to hold this year's summer meeting at Southampton.

As usual, the first day was devoted to the reading and discussion of Papers, the Members assembling for the purpose in the Lecture Hall of Hartley College, placed at their disposal by the Hartley Council to whom the cordial thanks of The Institution are due. The following Papers were read and discussed so far as time permitted.

A Paper on "Southampton, its Past and Present," by Mr. W. Burrough Hill (Fellow).

A Paper on "The New Forest," by Mr. F. J. Smith (Provincial Chairman).

A Paper on "Liability for Farm Fires caused by sparks from Railway Engines," by Mr. C. P. Hall (Professional Associate).

A Paper on "Recent Proposals for the Amendment of the Law and Practice as to Ancient Lights," by Mr. P. E. Pilditch (Fellow).

The Mayor's hospitable invitation to luncheon in the Pier Pavilion was a pleasing interlude in the day's proceedings.

In this and in many other ways the Mayor of Southampton evinced his interest in the visit, and laboured to promote its success.

In the evening, the Members dined together, to the number of about 100, at the South Western Hotel, and were favoured with the presence of a large number of official guests.

The morning of the second day was devoted to a most enjoyable visit to places of interest in Southampton, including the Southampton Docks (by kind permission of the Directors) and the Ordnance Survey Office (by permission of the Director-General, Col. D. A. Johnston, R.E.), in which all the Members participated.

Before departing for the afternoon excursions, the Members were hospitably entertained at luncheon by the Provincial Committee in the Pier Pavilion.

The excursions included a trip to the Isle of

Wight and Portsmouth Harbour, by a specially chartered steamer, an excursion to the New Forest, and a visit to Winchester, the several parties being conducted by Members of the Provincial Committee.

To all the Members of the Local Committee the warmest thanks of the Council are due, not only for the pains bestowed on the arrangements, but for their great liberality in entertaining the Members, and in bearing the very considerable expense of providing the steamer and the carriages for so large a number of persons. Cordial thanks are also due to the Very Reverend the Dean of Winchester, who conducted a party over the Cathedral; to Mr. Kirby (the Bursar), who performed a similar service in connection with the visit to Winchester College; to the Rev. Canon Brodrick (the Master of St. Cross), and to Mr. Taylor, the County Surveyor; to Mr. W. Burrough Hill for placing his rooms at the disposal of Members and allowing them to inspect his interesting collections; to Mr. Roberts (Assistant Deputy Ranger of the New Forest), who accompanied the party; and last, but not least, to Mr. F. J. Smith (the Chairman of the Provincial Committee), to whose untiring efforts the success of the visit was largely due.

It cannot be doubted that these country visits are much appreciated by the Members and are of great value in binding them together in the bonds of professional brotherhood

THE LIBRARY AND COLLECTIONS.

There have been large additions to the Library during the year, and a further outlay will shortly be made on the purchase of books. There is shelf accommodation for about 15,000 volumes. The present number of volumes is, approximately, 8,000.

During the year the whole of the Law text books have been replaced by the newest editions, and many other text books of the kind have been added to the collection.

In response to a request from some of the junior Members, the Council decided, as an experiment, to open the Library on every weekday evening (Saturdays excepted) from October 1st to March 31st. This had already been tried on two previous occasions, with not very satisfactory results.

The following figures will show to what extent the younger Members have availed themselves, during the past session, of the opportunities thus afforded them.

The total number of readers who have used the Library during the evening from October to March was 72, of whom 35 (say half) attended once. Twelve —or one-third of the remainder—attended twice, and the remaining 25 averaged 5½ times.

The average attendance during the six months was 2·5 per night. On 16 evenings, out of a total of 112, no one attended.

The Library Catalogue having become difficult for purposes of reference, owing to the great number of interpolations, the whole of the manuscript portion has been re-written, and will form, with the last printed edition (that of 1893), a complete Catalogue to the Collections. This is a necessary preliminary step to the re-publication of the Catalogue, which will shortly engage the attention of the Council.

The Forestry Collections have also been carefully re-arranged and catalogued, and the Council will be glad to see these Collections considerably extended by gifts of timber specimens, which the Members are in such an excellent position for contributing.

It may be mentioned that the two Geological Collections, one acquired by the Council many years ago, and the other recently presented by Professor C. E. Curtis, have now, with the valuable assistance of Dr. Woodward of the Natural History Museum, been thoroughly classified and arranged in such a form as to be of real utility to the Members.

General.

The Council take the opportunity of placing the fact on record that on the 28th of November last their distinguished and valued colleague, the Right Honourable Lord Alverstone, G.C.M.G., Lord Chief Justice of England, did them the honour to accept an invitation to dine with them in the Lecture Hall of The Institution. The Council sought in this way to give some expression to their sense of the services rendered by Lord Alverstone to The Institution and to the profession generally during so many years.

It is worth recording that every Member of the Council was present at the dinner.

It is a great gratification, alike to the Council and to the Members, to know that his Lordship has most kindly consented to remain a member of the governing body of The Institution.

During the Session the Council have promised financial support to, and have nominated two of their Members (Mr. A. R. Stenning and Mr. A. Vernon) to act on, a joint Committee of The Surveyors' Institution and The Royal Institute of British Architects, appointed for the purpose of collecting and tabulating information from all parts of the country as to damage to buildings resulting from lightning, to discover if possible how far buildings are rendered lightning-proof by modern systems of protection, and to ascertain what improved methods might be adopted.

It is hoped that the Members of The Institution in various parts of the country will assist the Committee by agreeing to act as observers, so that actual details, noted on the spot, may be forthcoming. Communications should be addressed to the Secretary of The Lightning Research Committee, 9, Conduit Street, W.

The Council also decided during the Session to co-operate with The Royal Institute of British Architects on a Joint Committee with reference to the Amendment of the Law and Practice as to Ancient Lights, appointing as their representatives on the Committee Mr. H. T. Steward, Mr. A. R. Stenning, Mr. H. Chatfeild Clarke, and Mr. G. M. Freeman, K.C., all of whom devoted a great deal of time to the consideration of the subject.

As the result of their deliberations, the Committee decided to draft a Bill for introduction into Parliament, and the Council have agreed to share (up to a certain amount) with The Royal Institute of British Architects the expense involved. The draft will come up for consideration very shortly.

EMPLOYMENT REGISTRY.

The number of applications from Members requiring assistants, and from the latter seeking professional employment, has been about the same as last year. In many cases during the past year Government and other appointments have been obtained through this useful agency.

The number of names at present on the register is about 70.

In conclusion, the Council are glad to feel that they have had the confidence of the Members, which has been their principal reliance in the discharge of duties of great and growing magnitude.

RECEIPTS. FOR THE YEAR ENDIN

			£ s. d.	£ s. d.	£ s. d
1900. Jan. 1st.	To Balance at Bankers and in hands of Secretary brought forward				379 7
Dec. 31st.	RECEIPTS ON INCOME ACCOUNT :—				
	To 1,733 Fellows' Subs. for 1900 at £3 3s.		5,458 19 0		
	„ 53 Fellows' Subs. Arrears at £3 3s. ...		166 19 0		
	„ 34 Fellows' Subscriptions in advance for 1901 at £3 3s.		107 2 0		
	„ 8 Fellows' Subs. (Member reinstated) at £3 3s.		25 4 0		
	„ Differences of Subscription on transfer		23 2 0	5,781 6 0	
	„ 796 Professional Associates', Associates', and Colonial Fellows' Subs. for 1900 at £2 2s.		1,671 12 0		
	„ 39 Professional Associates', Associates', and Colonial Fellows' Subscriptions Arrears at £2 2s....		81 18 0		
	„ 2 Professional Associates', Associates', and Colonial Fellows' Subscriptions in advance for 1901 at £2 2s. ...		4 4 0		
			1,757 14 0		
	Less Sub. paid twice and refunded ...		2 2 0	1,755 12 0	
	„ 309 Students' Subscriptions for 1900 at £1 1s.		324 9 0		
	„ 5 Students' Subscriptions paid in advance at £1 1s....		5 5 0	329 14 0	
	„ Hire of Rooms			411 14 0	
	EXAMINATIONS.				
	To Fees in Divisions III. & V. and forfeited ...	842 2 0			
	„ Sale of Syllabus ...	32 13 4	874 15 4		
	Less Examiners' and Moderators' Fees ...	449 16 0			
	Advertisements, Printing, and Stationery... ...	196 16 8			
	Hire of Hall & Instruments	87 2 0			
	Prizes	29 12 2			
	Sundry Disbursements ...	20 8 0			
	Fees refunded	27 6 0	811 0 10	63 14 6	
	„ Interest, Dividends, &c.			321 2 4	8,663 2 1
	„ Loan Account (Bank)				1,500 0
	RECEIPTS ON CAPITAL ACCOUNT :—				
	To 10 Fellows' Entrance Fees at £5 5s. ...		52 10 0		
	„ 48 Fellows' Differences of Entrance Fees at £2 2s.		100 16 0	153 6 0	
	„ 137 Professional Associates,' Associates', and Colonial Fellows' Entrance Fees at £3 3s.			431 11 0	584 17
					£11,127 7

31st December, 1900. PAYMENTS.

1900.	£	*s.*	*d.*	£	*s.*	*d.*
PAYMENTS ON INCOME ACCOUNT:—						
By *Transactions:* Publication and Reporting	714	15	2			
Less sale of *Transactions*	27	10	1			
				687	5	1
„ *Professional Notes:* Publication	242	14	9			
Less sale of *Notes*...	27	2	6			
				215	12	3
„ Salaries	2,490	0	0			
„ Wages	266	11	6			
				2,756	11	6
„ Housekeeper's Account, Commission on Cheques, and Sundry Disbursements				330	18	11
„ Postage and Receipt Stamps				534	6	0
„ Rates, Taxes, and Insurance				594	6	8
„ Fuel, Light, and Water				223	19	1
„ Rent (less Tax)	966	13	4			
Less Amount received from the Tribunal of Appeal	120	0	0			
				846	13	2
„ Furniture and Fittings				75	16	0
„ Stationery, Books of Account, &c.				79	14	6
„ Printing and Binding				356	5	5
„ Parliamentary Papers, Periodicals, &c.				20	6	6
„ Reporting				3	13	1
„ Provincial Committees and Junior Meetings ...				488	16	2
„ Country Meetings (Leeds)				105	13	0
„ Loan Account repaid to "Suspense" Account ...				500	0	4
				7,819	17	8
PAYMENTS ON CAPITAL ACCOUNT:—						
By Final Instalments paid on Account of Contract for New Building	2,655	0	8			
„ Architect's Commission and incidental Expenses in connection with the New Building	376	2	6			
				3,031	3	2
„ Cash at Bankers and in hands of Secretary				276	6	8
				£11,127	7	6

BALANCE SHEET

1900. ASSETS.

£	s.	d.		£	s.	d.	£	s.	d.
			CASH at Bankers and in hands of Secretary :—						
			"Accumulations" Account	276	6	8			
			"Library, Forestry, and Geological Collections" Account	140	7	6			
			"Prize Endowment" Capital Account	0	14	9			
			"Prize Endowment" Income Account	50	11	2			
			"Suspense" Account	1,098	6	0			
							1,566	6	1
			Furniture				1,425	0	0
			Books, Forestry, and Geological Specimens				4,987	9	6
			INVESTMENTS, Value at this date, viz.:—						
			Accumulations Account.						
£	s.	d.							
3,545	4	9	Consols 2¾°/o at 97½	3,456	12	2			
4,500	0	0	New South Wales 3½°/o (1918) at 103	4,635	0	0			
2,006	0	0	London and North Western Railway 3°/o Debenture Stock at 105 ...	2,106	6	0			
							10,197	18	2
			Library, Forestry, and Geological Collections Account.						
£	s.	d.							
1,900	0	0	Consols 2¾°/o at 97½				1,852	10	0
			Prize Endowment Account.						
£	s.	d.							
247	4	0	Midland Railway 2½°/o Debenture Stock at 83	205	3	6			
254	0	0	North British Railway No. 1 Preference Stock at 130	330	4	0			
413	16	8	Consols 2½°/o at 97½	403	9	11			
440	10	8	India 3½°/o at 108	475	15	5			
503	1	11	India 3°/o at 101	508	2	6			
							1,922	15	4
			Amounts due, but unpaid at date, viz.:—						
			Subscriptions and Entrance Fees	527	2	0			
			Fees for use of Rooms	123	5	6			
			Rent of Offices (Tribunal of Appeal)	33	5	0			
							683	12	6
							£22,635	11	7

N.B.—The above Assets do not include the value of the Premises of the Institution held on Lease for 999 years from 1895.

31st DECEMBER, 1900.

LIABILITIES.

	1900. £	s.	d.
Accumulations Account	10,418	8	11
Library, Forestry, and Geological Collections Account ...	6,980	7	0
Prize Endowment Capital Account	1,923	10	1
Prize Endowment Income Account	50	11	2
Suspense Account	1,098	6	0
Due to Sundry Creditors	664	8	5
Loan Account (Bankers)	1,500	0	0
	£22,635	11	7

Examined with books and vouchers and found correct.

TANSLEY WITT, F.C.A., Chartered Accountant.
40, *Chancery Lane, 7th May*, 1901.

H. C. NEWMARCH.
CHARLES P. HALL.

LIBRARY, FORESTRY, AND

1900.					£	s.	d.
Dec. 31st.	To Purchase of Books &c.				362	1	10
	„ Forestry Specimens and Geological Collection				30	2	0
	„ Binding				61	15	8
	„ Evening Attendance and Sundry Expenses				25	12	6
	„ Insurance				4	16	6
	„ Decrease in value of Investments at date				28	10	0
	„ Balance carried forward				*6,980	7	0
	*Cash in hand	£140	7	6			
	£1,900 Consols 2¾% at 97½	1,852	10	0			
	Value of Books, Forestry, and Geological Collections	4,987	9	6			
		£6,980	7	0			
					£7,493	5	6

"PRIZE ENDOWMENT"

1900.					£	s.	d.
Dec. 31st.	To Balance carried forward				1,923	10	1
	"Penfold Gift," £503 1s. 11d. India 3% Stock at 101	£508	2	6			
	"Beadel Bequest," £247 4s. Midland Railway 2½% Debenture Stock at 83	205	3	6			
	"Crawter Bequest," £254 North British Railway No. 1 Preference Stock at 130	330	4	0			
	"Daniel Watney Gift," £413 16s. 8d. Consol 2½% at 97½	403	9	11			
	"Driver Bequest," £440 10s. 8d. India 3½% Stock at 108	475	15	5			
	Cash in hand ("Beadel Bequest")	0	14	9			
		£1,923	10	1	£1,923	10	1

GEOLOGICAL COLLECTIONS ACCOUNT.

1900.			£	s.	d.
Jan. 1st.	By Balance brought forward		6,805	10	6
Dec. 31st.	,, Increased Values as at this date, viz.:—				
	Books, Forestry, and Geological Specimens purchased	£392 3 10			
	Value of Books, &c., presented	48 17 8			
			441	1	6
	,, Donations...		196	7	0
	,, Dividends on £1,900 Consols 2¾%		50	6	6
			£7.493	5	6
1901.					
Jan. 1st	By Balance brought forward		6,980	7	0

CAPITAL ACCOUNT."

1900.		£	s.	d.
Jan. 1st.	By Balance brought forward :—	1,922	2	11
Dec. 31st.	,, Increased value of Investments at this date	1	7	2
		£1,923	10	1
1901.				
Jan. 1st.	By Balance brought forward	£1,923	10	1

"PRIZE ENDOWMENT"

1900.		£ s. d.
Dec. 31st.	To Paid for "Driver Prize"	14 18 6
	„ Paid for "Penfold Medals"	14 9 2
	„ Paid for "Crawter Prize"...	10 0 0
	„ Paid for "Daniel Watney Forestry Prize"	10 0 0
	„ Balance carried forward	50 11 2
		£99 18 10

ACCUMULATIONS

1900.			£ s. d.
Dec. 31st.	To Depreciation on Furniture		75 0 0
	„ Excess of Expenditure on Capital Account	2,446 6 2	
	„ Less Excess of Income applicable to 1900	1,299 15 0	
			1,146 11 2
	„ Balance carried forward		10,418 8 11
			£11,640 0 1

"SUSPENSE"

1900.		£ s. d.
Dec. 31st.	To Fees refunded	9 9 0
	„ Paid to Revenue in respect of Fees for Entrances and Transfer	609 0 0
	„ Balance carried forward	1,098 6 0
		£1,716 15 0

INCOME ACCOUNT.

		£ s. d.	£ s. d.
1900.			
Jan. 1st.	By Balance brought forward		44 18 9
Dec. 31st.	,, Dividends, viz.:—		
	"Beadel" Bequest	5 19 0	
	"Driver" Bequest	14 15 8	
	"Penfold" Gift	14 9 2	
	"Crawter" Bequest	9 15 3	
	"Watney" Prize	9 18 2	
			54 17 3
	,, Excess of Expenditure on the "Driver" Prize, transferred to General Prize (Revenue) Account ...		0 2 10
			£99 18 10
1901.			
Jan. 1st.	,, Balance brought forward		£50 11 2

ACCOUNT.

		£ s. d.
1900.		
Jan. 1st.	By Balance brought forward	11,623 4 9
Dec. 31st.	,, Increased value of Investments at current prices	16 15 4
		£11,640 0 1
1901.		
Jan. 1st.	By Balance brought forward	£10,418 8 11

ACCOUNT.

			£ s. d.
1900.			
Jan. 1st.	By Balance brought forward:—		
	Cash at Bankers	£512 4 0	
	Loan to General Account	500 0 0	
			1,012 4 0
	,, Examination Fees received during 1900 ...		704 11 0
			£1,716 15 0
1901.			
Jan. 1st.	By Balance brought forward		£1,098 6 0

APPENDIX TO VOL. XXXIII.

Obituary.

HENRY BANCROFT (Fellow) born in 1834, was the eldest son of the late James Bancroft, of Broughton Old Hall, Manchester. He commenced his professional career in the City Surveyor's Office, Manchester, afterwards going into the office of the late Mr. J. T. Bateman, by whom he was entrusted with much important work, both as an assistant and in after years when practising on his own account. Upon leaving Mr. Bateman he took up a position as resident engineer on the Fylde Waterworks and the Blackpool and Lytham Railway under Mr. T. B. Foster, and on the completion of these works, in the year 1864, he commenced business on his own account. During his 36 years of private practice Mr. Bancroft designed and carried out many important schemes, notably that for the sewerage and sewage disposal of the borough of Colne in Lancashire, and the waterworks for Northwich. He was elected a Fellow of The Institution in January, 1889. He died on the 15th May, 1900, in the 66th year of his age.

JOHN WINTERBOTHAM BATTEN, K.C. (Associate), second son of Mr. John Batten, of Cheltenham, was born in 1831 at Devonport, educated at Mill Hill Grammar School, and articled to Mr. Lindsey Winterbotham, solicitor, of Stroud. In 1872 he was called to the Bar by the Inner Temple, and took silk in 1899.

Mr. Batten joined The Institution as an Associate in December, 1875. His death occurred, very suddenly, at his residence in Airlie Gardens, Campden Hill, on June 3rd, 1901, at the age of 70.

HENRY C. BOYES (Fellow), a well-known architect and surveyor, designed many buildings in the City of London, including the new Grocers' Hall, Poultry, E.C. During the session 1876-77 he served as President of the Architectural Association, and in 1885 was appointed surveyor to the Grocers' Company. He was elected a Fellow of The Institution in April, 1888. His death took place on the 26th December, 1900, at the age of 54.

ARTHUR CATES (Fellow) was educated at King's College School, and, on leaving, became a pupil of Mr. Sydney Smirke, R.A., and afterwards confidential assistant to Sir James Pennethorne. In 1859 he entered upon general practice as an architect, and continued in the active pursuit of his profession until 1898, when he retired. As an architect he acted for the Inner Temple and other public bodies and estates, and from 1870 till his retirement he was architectural adviser to the Commissioners of Woods and Forests for the Crown estates in London. From an early period of his career he was largely engaged, both as witness and umpire, in compensation cases, and his experience and authority were recognised by his appointment as Chairman of the Tribunal of Appeal constituted by the London Building Act, 1894.

Mr. Cates was Hon. Secretary to the Architectural Publication Society, and, while holding this office, completed the production of the *Dictionary of Architecture* at a cost of over £10,000. He was also, from 1888 to 1892, a Vice-President of the Council of the Royal Institute of British Architects, and took a very active part in the initiation and control of the examinations of that Institute. Mr. Cates was a linguist of no ordinary capacity, having a thorough mastery of French, German, Italian, and Modern Greek, and his knowledge in other directions was varied and profound. His death occurred on the 15th May, 1901, at his residence, 12, York Terrace, Regent's Park, at the age of 72.

JOHN CROSS (Fellow) was born at Bury, Lancashire, on the 20th October, 1828, and was educated at private schools at Blackford Bridge and at Bury.

After leaving school he entered the estate office of the then Lord Derby, where he received his business training under the supervision of the late Mr. Thomas Statter, with whom he served his pupilage, and remained for two years afterwards as assistant. In 1851 he had an offer of a partnership with Mr. George Gorton, of Bury, and he left Lord Derby's estate office for the purpose of joining him, and this business was carried on in Bury for some years under the style of Gorton and Cross. Mr. Cross, however, was satisfied that he could do better by himself than with a partner, so he left the firm after a few years and commenced business on his own account at Broad Street, Bury. In 1869 he removed to Cross Street, Manchester, where he very soon took a position in the first rank of estate valuers. He was also well known as a mining engineer, and for some years had the management of the Crewe Coal and Iron Company's collieries in Staffordshire. In the year 1875 Mr. Cross took into partnership Mr. William Eagle, who had for some years previously been in his office, and from that date the business was carried on under the name of Cross and Eagle.

This gave Mr. Cross more time to devote to his personal business as a valuer, in which he was very largely engaged, especially in connection with the numerous City Improvements, and also as a valuer in rating matters, in which he was considered an authority. As an expert witness he had few superiors, and was much sought after as arbitrator or umpire.

In 1898 the partnership was dissolved by mutual consent, Mr. Cross remaining in the King Street offices, with his two sons as partners, under the style of Cross and Sons.

Mr. Cross was elected a Fellow of The Institution in January, 1876, and was the first Chairman of the Lancashire and Cheshire Provincial Committee, and served on the Council of The Institution from 1890 until his retirement in 1895.

His death occurred on the 15th April, 1901, at his residence, Beaucliffe, Alderley Edge, at the age of 72.

HENRY CURREY (Fellow), of 37, Norfolk Street, Strand, was the third son of Mr. Benjamin Currey, solicitor, of Old Palace Yard, and was born in 1820. He was educated at Eton and was articled to Mr. Decimus Burton for five years. On leaving Mr. Burton's office he went into the office of Messrs. Wm. Cubitt and Co., and afterwards travelled in Germany and Italy. In 1845 he married a daughter of the late Sir Charles Price. He commenced business in 1843, and in course of time acquired a very considerable and varied practice, his principal works being the new St. Thomas's Hospital, the Peninsular and Oriental Company's offices in Leadenhall Street, and many other commercial buildings in the City and Southwark. He erected churches at Burbage, Buxton, Chiswick, Notting Hill, and St. Peter's, Eastbourne, and laid out the Duke of Devonshire's building estate at Eastbourne.

He was for many years on the Council of the Royal Institute of British Architects, and was twice elected a Vice-President. He was also an Associate of the Institution of Civil Engineers.

Mr. CURREY was architect and surveyor to the Foundling Hospital and to the Magdalen Hospital. His death took place on the 23rd November, 1900, in his 81st year.

WILLIAM HENRY DEARLE (Fellow) was articled to Messrs. Wright and Gould, late of King Street, Cheapside, and was afterwards for a number of years manager to Messrs. Sandall and Corderoy, of King William Street, Strand, and later on with Messrs. Sandall, Corderoy, and Selby, of Queen Anne's Gate. Mr. DEARLE had of late years been engaged principally in assisting surveyors on large and important works. He was elected a Fellow of The Institution in March, 1890. His death took place on the 26th March, 1901.

JACOB WILSON FAIR (Fellow) was born at Frenchfield, near Penrith, Cumberland, in 1835, and early in life commenced his professional career as a land agent, receiving his training in the estate offices of the Duke of Sutherland at Trentham, of Mr. Anstruther

Thompson in Fifeshire, and of the late Colonel J. T. Clifton at Lytham. He was afterwards appointed agent to the late Mr. Dewhurst, of Lymm, Cheshire, but his health breaking down he was obliged to give up his work in England and proceed to Australia, where he benefited so much from the climate that he was able to enter into active practice in banking and other operations for three years, when he again returned to England. For a time he was associated in partnership with his cousin, Mr. Thomas Fair, in the agency of the Clifton Estates at Lytham. This partnership lasted until 1887, when it was dissolved, and Mr. FAIR then took into partnership his nephew, Mr. J. M. Rea, and with him had charge of various important estates. The estate of the Earl of Crawford, at Wigan, was exclusively looked after by Mr. FAIR, who, in addition, had a large connection in arbitrations and similar business. He was a J.P. for the county of Lancaster, and for a time was a member of the Lancashire County Council. Mr. FAIR acted for some time as Chairman of the Counties Palatine Provincial Committee, rendering great service to his district, and in May, 1895, was elected a Member of the Council, a position he was compelled to relinquish last year owing to failing health. His death took place on February 6th, 1901, at Lytham, where he had been lying ill for several months.

GEORGE W. FINN (Fellow) was the son of Mr. John Finn, of Brookland and New Romney. In addition to his professional work he was a farmer and a hop-grower on a somewhat extensive scale, in the parish of Preston-next-Faversham. He had been for many years a member of the Canterbury Farmers' Club, and from 1895 to 1898 acted as its chairman.

He died after a long illness on July 30th, 1900, at the age of 60.

EDWARD KNAPP FISHER (Fellow) was born at Market Harborough in 1826, and was educated at Oundle School. In 1841 he entered the office of his father at Market Harborough, and ultimately became his partner. The business referred to, begun by Mr. Edward Fisher in 1830 and afterwards carried on under the title of Fisher and Son, and more recently under that of E. K. Fisher and Son, grew to be a very extensive one, especially in the counties of Leicester, Northampton, Oxford, and Bedford. Mr. E. K. FISHER himself was at one time agent to the late Mr. George Payne, and also to the late Sir Geoffrey Palmer, Bart., and was for many years one of the mineral agents to the Ecclesiastical Commissioners.

A business of this varied character naturally brought Mr. FISHER into relation with all classes of the community, and especially with those connected with agriculture. He was one of the oldest members of the Royal Agricultural Society, having been elected in 1870. He was elected a Fellow of The Institution in February, 1888, and was Chairman of the Leicestershire, Northants, and Rutland Committee from 1892 to 1895. His death took place at his residence, St. Mary's, Market Harborough, on March 7th, 1901, after a long and painful illness, in the 75th year of his age.

HENRY EDWIN FOSTER (Fellow) was born in Kensington on March 20th, 1844. He came of an old Kensington family, his father being a large owner of property. Mr. Foster was connected with two other professional firms previous to commencing business on his own account, his first engagements being with Messrs. Briggs and Co., in Westminster Bridge Road, and subsequently with Messrs. Rymill, of Barbican, E.C.

Upon the dissolution of the old firm of Marsh, Milner, and Co., in 1877, Mr. Foster and Mr. W. B. Cranfield, jointly with Mr. Langton, took over the business.

Mr. Foster became a Fellow of The Institution in November, 1891.

His death occurred on the 17th May, 1901, in the 58th year of his age.

JOSEPH GODDARD (Fellow), of the firm of Goddard and Paget, Leicester, was educated at Franklin's School, Leicester, and was articled to his father, Mr. Henry Goddard, in 1856, and commenced practice, in partnership with him, in 1862. He was elected a Fellow of The Institution in January, 1889.

His death, which was very sudden, took place at his residence, the Manor House, Newton Harcourt, near Leicester, on the 10th October, 1900, in his 61st year.

SAMUEL GREEN (Fellow), head of the firm of Messrs. Green and Son, St. Swithin's Lane, was elected a Fellow of The Institution in May, 1884. He was concerned as witness or arbitrator in many of the principal compensation cases of recent years. In this connection it may be noted that he was the leading surveyor to the claimants in the great arbitration case arising out of the acquisition, by the War Office, of the Maplin Sands, involving an area of some 14,000 acres of foreshore land, and its purchase led to litigation extending over a period of twelve years. It was in a great measure owing to Mr. GREEN'S professional acumen and pertinacity that the final decision was in favour of the claimants. The liquidation of a large portion of the Jabez Balfour estates was also placed in his hands.

He was elected Alderman for the ward of Walbrook in 1897.

His death took place on April 23rd, 1901.

WILLIAM ARTHUR W. HERRING (Fellow) was the son of Edward Francis Herring, a member of a very old-established firm of surveyors. He was educated privately, and was for some years in the office of a City architect, after which he joined his father's firm, subsequently establishing himself in the West End. He was elected a Fellow of The Institution in February, 1889. Ill-health necessitated his retirement to Ventnor, where he died on the 6th November, 1900, at the early age of 39.

JOSEPH WILLIAM KEMSLEY (Fellow), born in December, 1843, at Greenstead, near Ongar, was the second son of the late Mr. Joseph Kemsley. For many years he was engaged in agriculture, and was a tenant of farms comprising about 2,000 acres. Some 25 years ago he began business as a surveyor and land agent, and about ten years ago took over the business carried on for many years by the late Mr. Henry Champness at the Corn Exchange, Romford. He enjoyed a high reputation as a valuer, and many important valuations and sales of landed property, as well as the settlement of compensation claims in Essex and the neighbouring counties, were entrusted to him. He was a very regular attendant and a frequent speaker at the evening meetings, and rarely failed to contribute something useful to discussions on subjects with which he was familiar. Mr. Kemsley was elected a Fellow of the Institution in 1883.

His death occurred on the 28th August, 1900, in the 57th year of his age.

PETER LAWRENCE (Fellow) was educated at the High School, Edinburgh, and trained as a surveyor in the office of Messrs. Henry Herbertson and Co. of Glasgow, commencing practice on his own account when 21 years of age.

Fortunate in being related to the late Mr. David Bryce, R.S.A., Edinburgh, an architect of great repute and in very large practice in Scotland, he was very early in life plunged into a large amount of work.

In conjunction with his partner, the late Mr. George Brown, and by himself after the dissolution, he measured a very large number of extensive buildings, among which may be mentioned the Royal Infirmary of Edinburgh, Coats Memorial Church, Paisley, Edinburgh Tramways, Central Station Hotel, Glasgow, Mount Stuart House for the Marquis of Bute, Fyvie Castle, Inverness Barracks, and many other works for Government.

Mr. Lawrence had great capacity for work and was possessed of restless energy. He was engaged in numerous important arbitrations as witness, arbiter, and oversman; was President of the Edinburgh Trades' Exchange, President of the Edinburgh Society of Surveyors, a Governor of the Edinburgh Merchant

Company, besides holding many other positions of trust and responsibility.

Mr. Lawrence died in May last from an attack of rheumatic fever, at the comparatively early age of 51.

RICHARD RANDALL (Fellow) was, till his retirement last year, a surveyor to the War Department. During his lengthy career he was stationed at the War Office, Birmingham, Aldershot, Colchester, Halifax, and, for the last 13 years of his service, at the Curragh, where he was responsible for the construction and finance of the great barrack scheme which is now in progress at that place. He was also the architect of the Church of Ireland Soldiers' Institute, the Roman Catholic Soldiers' Institute, and the Nurses Home at the Curragh.

His death occurred on the 20th April, 1900, in his 67th year.

GEORGE BAKER SMALLPEICE (Fellow), of 9 and 10, Tokenhouse Yard, E.C., and Woking, served his articles with a Guildford firm, afterwards coming to London and entering the office of Messrs. Farebrother, Ellis, Clark, and Co., of Fleet Street. He subsequently commenced business in conjunction with Mr. R. Bishop, in Godliman Street, but the partnership was later on dissolved. He then went into business alone, with offices in Tokenhouse Yard, taking over the connection of the late Mr. Frank Lewis. Mr. Smallpeice owned a considerable amount of property in Woking, where he had established a branch office. He became an Associate of The Institution in December, 1880, and a Fellow in April, 1883. He was also a member of the Committee of the Estate Exchange. His services as a surveyor and valuer were frequently in request in compensation and other cases.

His death took place on May 28th, 1900, at his residence at Woking, in his 51st year.

THOMAS DAVIES SMELLIE (Fellow) was the son of Dr. Thomas Smellie of Houston, Renfrewshire, and was born there in March, 1825. He came to Glasgow at an early age, and after serving an apprenticeship to a measurer commenced business on his own account in September, 1848, in Buchanan Street, Glasgow. For a number of years his professional work embraced measuring, insurance surveys, and the laying out of feuing ground. In the early "sixties," however, when there was great activity in the matter of railway enterprise in the West of Scotland, Mr. SMELLIE came to be largely employed to make valuations of land and properties being acquired for the various schemes. About the same time the first City Improvement Act was obtained for Glasgow, and a large number of compensation cases arose through the acquisition of "slum" properties. In those early cases more scientific principles of valuation began to be adopted than had hitherto prevailed, and in the establishment of these principles Mr. SMELLIE had a leading part. He always strongly advocated the comparison of surrounding transactions of purchase and letting as reliable guides in fixing values, and the tables of sales and of rentals which he prepared for the arbitrations of that period were among the first of their kind. Subsequently, Mr. SMELLIE was constantly engaged in compensation cases and often in parliamentary work, sometimes on behalf of the leading

Scottish Railway Companies and other public bodies, and sometimes in opposition to them, acting in the various capacities of private adviser, expert witness, arbiter, and oversman.

He was also largely engaged in valuations of all kinds of heritage for the purposes of purchase, sale, or lending, and he was frequently employed by the Courts to report upon matters under dispute, and upon the administration of entailed estates, &c.

Being thus well equipped with experience resulting from a large and varied practice, and from extensive transactions on his own account, his advice on all property matters was much sought after, and his shrewd and kindly counsel much esteemed.

MR. SMELLIE joined The Institution shortly after its inception, the date of his election being the 26th October, 1868. He was also an honorary member of the Glasgow Institute of Measurers, and an honorary director of the Glasgow Landlords' Association, as well as a member of several scientific societies, but being of a retiring disposition took no part in public affairs.

For a few years back Mr. SMELLIE had been in failing health, and was unable to take an active interest in business. He died at his country house of Rockcliff, Bridge of Weir, on 25th October last, in the 76th year of his age.

FREDERIC SMITH (Professional Associate) was a pupil and afterwards assistant to Mr. George Smith, of Boughton-Monchelsea, Kent, and was elected a Professional Associate of The Institution in October. 1898. He was one of the first to volunteer for active service in

South Africa, where at the time of his death he had served nearly a year in the Imperial Yeomanry.

He died at Winburg, of enteric fever, on the 4th January, 1900, in his 25th year.

EDWARD SMYTH (Fellow) was a son of the late Mr. Edward Smyth, an artist, of Newman Street, London, and originally intended to follow his father's profession. For several years he did hard work in the studio, at the British Museum, the National Gallery, and the Royal Academy, but his father's early death compelled him to relinquish his art studies. In February, 1847, he obtained a position in the office of Messrs. Clutton, of 9, Whitehall Place, and there set himself to become proficient in his new sphere. The success which rewarded his efforts is perhaps best evidenced by his having remained in the service of Messrs. Clutton for more than 53 years, actively engaged until shortly before his death, when his failing health made it necessary for him to relinquish his regular attendance. In 1868 Mr. SMYTH was elected an Associate of The Institution, and contributed several valuable papers to the *Transactions* and *Professional Notes* between the years 1884 and 1892. In 1886 he was elected Professional Associate of Council, and was re-elected each year until 1899, when he resigned, feeling his strength unequal to the due discharge of his duties. On his retirement from the Council he was elected a Fellow of The Institution. Mr. SMYTH acted for many years as honorary examiner in the difficult and onerous subject of Copyhold Enfranchisement, in which he possessed a degree of knowledge which was perhaps unrivalled. He was endowed with very considerable mathematical gifts and was a member of the Institute of Actuaries, to whose journal he made some valuable contributions.

His death took place on the 24th October, 1900, in his 71st year.

WILLIAM HENRY STRUDWICK (Fellow), of New Inn Chambers, W.C., carried on for many years a considerable business as a quantity surveyor, for some time in partnership with Mr. Mennie and subsequently alone. Mr. STRUDWICK became a Fellow of The Institution in 1881. Some time before his death he underwent a dangerous surgical operation, which was the means of prolonging his life for a while, but the disease from which he suffered recurred, with fatal results. He was deservedly popular in the profession, and had a large circle of friends.

His death took place at his residence in Bickley, Kent, on August 8th, 1900, in his 62nd year.

WILLIAM HENRY THURGOOD (Fellow), senior partner in the firm of Thurgood, Son, and Chidgey, surveyors, was born in March, 1836, and died 12th December, 1900.

He started business with Messrs. George Baker and Sons, of Lambeth, and was made a partner in the firm about 1870. He commenced business as a surveyor about 1880, and for many years acted as quantity surveyor to the Metropolitan Police. The present firm was formed only a few months before his death. Amongst other large buildings the firm of George

Baker and Sons built the Natural History Museum during Mr. THURGOOD's partnership.

JOSEPH ASHTON WALKER (Fellow) entered the office of Mr. John Brown, land agent, of Chesterfield, in 1868, and afterwards the office of Mr. F. H. Dyke, of York. In 1874 he entered the Ashton Court Estate Office, and for the last 17 years acted as sub-agent to Sir Greville Smyth, Bart, of Ashton Court, Somerset. He had an extensive, varied, and practical experience in the valuation and management of property in all its branches.

He was elected a Professional Associate in 1891 and a Fellow in the following year.

His death occurred on July 2nd, 1900, in the 48th year of his age.

HENRY WOOD (Fellow) was born at Honiton, Devonshire, in 1842, and came to London in 1865, having been invited by the late Mr. W. J. Beadel, M.P., the then principal of the firm of Beadels, to occupy a post in his office. He soon acquired an interest in the business, and upon Mr. Beadel's death became its head. He successfully negotiated the purchase and sale of several large landed estates. In 1893 the famous Riddlesworth Hall, Norfolk, built by Sir D. Drury, one of the gaolers of Mary Queen of Scots, changed hands through his instrumentality. He also found a purchaser in the same year for the historic Hengrave Hall, Bury St. Edmund's. Mr. WOOD was an acknowledged leader in the religious denomination with which he was connected, and was unsparing in his efforts on behalf of various agencies for good, in which he took a keen interest.

He became an Associate of The Institute as far back as 1879 and a Fellow in July, 1891.

His death took place on October 6th, 1900, in the 59th year of his age.

LIBRARY.

DONATIONS OF BOOKS, MAPS, &c.,

June 1*st*, 1900, *to June* 1*st*, 1901.

DONORS.	TITLE OF WORK.
Academy Architecture, Publishers of	"Academy Architecture and Architectural Review," Vol. 17.
Accountant, Editor of the...	"The Accountant," 1900-1901.
Agent-General for New South Wales	Andrews, E. C. "Report on the Hillgrove Gold Field, New South Wales," 1900.
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1895, Jan. 21	Bedford, His Grace The Duke of	15, Belgrave Square, S.W.
1893, Mar. 20	Carrington, The Right Hon. The Earl, G.C.M.G.	50, Grosvenor Street, W.
1889, Dec. 9	Chaplin, The Rt. Hon. Henry, M.P.	Blankney Hall, near Lincoln.
1887, Jan. 24	Cobham, The Right Hon. Lord Viscount	Hagley Hall, Stourbridge.
1883, May 21	Devonshire, His Grace The Duke of, K.G.	Devonshire House, Piccadilly, W.
A. 1881, Mar. 21 H. M. 1886, Mar. 8	Grantham, The Hon. Sir William	100, Eaton Square, S.W.
A. 1880, Dec. 13 H. M. 1895, May 13	Gully, The Right Hon. William Court, Q.C.	Speaker's House, Palace of Westminster, S.W.
1900, Feb. 26	Howard, Edward Stafford, C.B.	Office of Woods, &c., 1, Whitehall Place, S.W.
A. 1880, Dec. 13 H. M. 1895, Nov. 11	James of Hereford, The Right Hon. Lord	41, Cadogan Square, S.W.
1889, Mar. 4	Jersey, The Right Hon. The Earl of, G.C.B., G.C.M.G.	Middleton Park, Bicester, Oxon.
1886, Jan. 11	Kingscote, Colonel Sir Robert Nigel Fitzhardinge, K.C.B.	19, South Audley Street, W.
A. 1869, July 26 H. M. 1871, Feb. 27	Leach, Lieut.-Col. Sir George Archibald, K.C.B.	6, Wetherby Gardens, South Kensington, S.W.
1885, Apr. 20	M'Clellan, John B., M.A., The Rev.	Royal Agricultural College, Cirencester.
A. 1869, Feb. 22 H. M. 1894, Feb. 19	Philbrick, His Honour Judge Frederick Adolphus, Q.C.	Barwick House, Yeovil, Somerset.
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1034	1881, Jan. 14	Abbott, Robert Thomas G.	Whitley House, Malton, Yorkshire.
2740	1895, Sept. 2	Abbott, Joseph	30, Grafton Street, W., Dublin.
1499	1888, Nov. 26	Abbott, William	24, Coleman Street, E.C., and Holbeach, Lincoln.
2449	A. 1891, Nov. 4 F. 1895, Jan. 21	*Abrams, Benjamin Percy	Bevois House, 28a, Basinghall St., E.C.
2741	1895, Sept. 2	Adair, John Olphert	Ballynoe, Tullow, Co. Clare.
3171	1897, Oct. 26	Adam, Thomas	27, Union Street, Glasgow.
1105	1884, Feb. 25	Adams, Henry, M.I.C.E.	60, Queen Victoria Street, E.C.
1504	1888, Dec. 10	Addie, Peter	City Valuers Department, The Council House, Bristol.
612	1881, Feb. 21	Addie, William Forrester	Powis Castle Estate Office, Welchpool, Montgomeryshire.
3072	A. 1896, Oct. 28 F. 1900, Oct. 1	*Addiscott, Henry Hugh	25, Doyle Road, Upper Tooting Park, S.W.
1439	A. 1888, Jan. 9 F. 1891, Jan. 5	*†Adkin, Benaiah Whitley	14, Queen Street, Cheapside, E.C.
664	A. 1881, Dec. 19 F. 1886, Nov. 8	Adkin, Charles Duncan	Wantage and Abingdon, Berks.
3452	1899, Feb. 16	Aitken, John Malcolm	Castlemilk Estates Office, Norwood, Lockerbie, Dumfriesshire.
3057	1896, Oct. 28	Alcock, Samuel	Royal Engineer Office, Curragh Camp, Kildare, Ireland.
2742	1895, Sept. 2	Alexander, Charles Murray, Lieut.-Col.	Termon, Carrickmore, Co. Tyrone.
2743	1895, Sept. 2	Alexander, Henry George Samuel Major	1, Gosford Place, Armagh.
3004	1896, Jan. 21	Alexander, Robert Arthur	Glenmore, Drogheda, Co. Louth.
1479	1888, Apr. 30	Allen, George	Strangways, Marnhull, Blandford, Dorset
2930	A. 1895, Oct. 24 F. 1898, Nov. 14	*Allen, Percy	Warrington House, Duppas Hill, Croydon
2503	A. 1892, Nov. 28 F. 1893, Nov. 13	*Amos, Frank	3, The Parade, Canterbury, Kent.
2744	1895, Sept. 2	Anderson, Alex. Carew	Killmurray, Waterford.
3172	1897, Oct. 26	Anderson, Robert	95, Bath Street, Glasgow.
597	A. 1881, Jan. 10 F. 1884, Mar. 10	Anderson, Robert	The Barton, Cirencester.
1635	1889, Dec. 9	Andrew, Thomas Hawkes	Williton, Somerset.
1792	1890, May 29	Andrews, John	13, Basinghall Street, E.C.
3342	A. 1898, Oct. 29 F. 1900, Feb. 12	*Angel, Francis Houghton	50, Russell Road, Kensington, W.
1634	A. 1889, Nov. 25 F. 1892, Nov. 14	*Anscombe, Ernest	8, Wellington Rd, St. John's Wood, N.W
198	1869, May 3	Arding, Charles B., A.R.I.B.A.	22, Surrey Street, Strand, W.C.
2649	A. 1894, Oct. 30 F. 1896, Mar. 16	*Aris, John Whitton, M.A. *(Oxon.)*	Loys Weedon House, near Towceste Northamptonshire.

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2745	1895, Sept. 2	Armstrong, Alexander Moore, Capt.	Culmore House, Kilrea, Co. Londonderry.
3005	1896, Jan. 21	Armstrong, Elliott Graham, B.A. (*Dublin*)	Rent Office, Ahascragh, Ballinasloe, Co. Galway, Ireland.
791	1882, Apr. 24	Armstrong, Thomas John	14, Hawthorn Terrace, Newcastle-on-Tyne.
1730	1890, Feb. 24	Armytage, Sir George, Bart.	Kirklees, Brighouse, Yorkshire.
1505	1888, Dec. 10	Arnold, Francis	Chilland, Winchester, and Hambledon, Hants.
1709	1890, Feb. 10	Arnold, William	23, George St., Tamworth, Staffordshire.
3042	A. 1896, June 2 F. 1900, Nov. 12	*Arno, Samuel	63, Cawley Road, South Hackney, N.E.
1280	A. 1885, Dec. 7 F. 1896, Jan. 20	*Arnott, John	Church Street, Woodbridge, Suffolk.
1541	1889, Jan. 14	Ashdown, Augustus Harding	Uppington, Wellington, Salop.
3075	A. 1896, Oct. 28 F. 1898, Oct. 3	*Ashenden, Leonard Thomas	The Kent Fire Office, 29, Westgate Canterbury, Kent.
1750	A. 1890, Feb. 24 F. 1901, July 2	*Assiter, Harry G.	19, Old Queen St., Westminster, and Weald House, Harrow Weald, Middlesex.
2151	1891, Nov. 4	Ault, Edwin	47, Victoria Street, Westminster, S.W.
2152	1891, Nov. 4	Austen, Frank	Marling Place, Wadhurst, Sussex.
1793	1890, May. 29	Austin, Richard	Bishop's Waltham, Hants.
1408	A. 1887, Dec. 19 F. 1891, Oct. 15	*Austin, Richard, Jun.	Bishop's Waltham, Hants.
404	1875, Nov. 8	Austin, Russell Gardener	Hertford.
1913	1891, Jan. 17	Aynsley, Robert John	Gosforth, Newcastle-on-Tyne, Northumberland.
798	A. 1882, Apr. 24 F. 1890, Apr. 14	Ayres, Charles Pryor	14, High Street, Watford, Herts.
1914	1891, Jan. 17	Bacon, Frank Mace	Attleborough, Norfolk.
1915	1891, Jan. 17	Bacon, Horace	Attleborough, Norfolk.
140	A. 1868, Nov. 2 F. 1887, Feb. 7	Badcock, Philip	9, Whitehall Place, S.W.
1767	1890, Mar. 24	Bailey, Harry David Chinery	Fundenhall Grange, Norwich, Norfolk.
3636	1900, Nov. 12	Bagot, Lewis Brown	Royal Engineer Office, Port Louis, Mauritius.
665	A. 1881, Dec. 19 F. 1889, Nov. 11	Bailey, Leonard	Chartleigh, Barrow Green Rd., Oxted, Surrey.
2566	A. 1893, Oct. 4 F. 1896, Feb. 17	*Bailey, Louis Hewitt	Athenæum Buildings, Friar Street, Reading, Berks.
2057	1891, May 23	Bailey, William Smith	4, Kirkgate, Newark-upon-Trent.
2747	1895, Sept. 2	Baillie, John Robert, Major	Estate Office, Ballina, Co. Mayo.
1506	1888, Dec. 10	Bainbridge, Robert Stagg	Keverstone, near Staindrop, Durham.
2153	1891, Nov. 4	Baines, Matthew Talbot, M.A. (*Cantab.*)	Estate Office, Wootton Bassett, Wilts.
2748	1895, Sept. 2	Baldwin, Chambré Corcor Thomas	7, Leinster Street, Dublin.
1690	A. 1890, Jan. 6 F. 1891, Dec. 7	*Ball, William Alfred	Rosslyn, Lansdowne Rd., Bromley, Kent.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
479	1877, Mar. 12	BALLS, JAMES MAYHEW	Castle Hedingham, Essex.
1879	A. 1890, Nov. 22 F. 1893, Nov. 13	*BANCROFT, FREDERICK HERBERT	88, Mosley Street, Manchester.
2932	A. 1895, Oct. 24 F. 1901, Feb. 11	*BANKS, FREDERICK STUART ANGUS	4, Chichele Road, Cricklewood, N.W.
2156	1891, Nov. 4	BANKS, JOHN	Kendal, Westmoreland.
1916	1891, Jan. 17	BANKS, THOMAS	60, King Street, Manchester.
606	1881, Feb. 7	BANNISTER, THOMAS	Limehurst, Hayward's Heath, Sussex.
3510	A. 1899, Oct. 30 F. 1901, July 2	*BARKER, FREDERICK GEORGE ...	3, Bucklersbury, E.C.
712	1882, Jan. 30	BARFIELD, FREDERIC HENRY ...	56, Lancaster Road, Stroud Green, N.
2504	A. 1892, Nov. 28 F. 1898, Nov. 14	*BARKER, GEOFFREY LIONEL ...	Kilnback, Angle, Pembrokeshire.
1985	1891, Mar. 14	BARKER, HORACE RICHARD ...	13, Lowndes Street, Belgravia, S.W.
1661	A. 1889, Dec. 9 F. 1891, June 29	*BARNES, GEORGE FREDERICK ...	Estate Office, Wingerworth Hall, near Chesterfield.
983	1883, Dec. 17	BARNES, JOHN WILLIAM JAMES...	Albion Chambers, King St., Nottingham.
3499	1899, Oct. 30	BARNES, WILLIAM ARTHUR, B.A. (*Dublin*)	Westland, Kells, Co. Meath.
1307	1886, Feb. 22	BARNES-WILLIAMS, T., F.R.I.B.A.	St. Thomas' Chambers, 24, Railway Approach, London Bridge, S.E.
3345	A. 1898, Oct. 29 F. 1899, Oct. 2	*BARNS, STEPHEN ALLEN	51, Brooke Road, Stoke Newington, N.
2157	1891, Nov. 4	BARR, JAMES, M.I.C.E.	221, West George Street, Glasgow.
2158	1891, Nov. 4	BARRATT, FREDERICK WILLIAM	The Vestry Hall, Bethnal Green, E.
2749	1895, Sept. 2	BARRINGTON, JOHN BEATTY ...	Barrington Street, Limerick.
2159	1891, Nov. 4	BARROW, THOMAS ROBERT... ...	Post Office Avenue, Southport, Lancashire.
1917	1891, Jan. 17	BARRY, DENNETT HEBER	21, Old Square, Lincoln's Inn, W.C.
2058	1891, May 23	BARTON, HARRY HOWELL	17, Guildhall Street, Folkestone, Kent.
2750	1895, Sept. 2	BARTON, HENRY DUPRÉ MALKIN	The Bush, Antrim, Ireland.
2562	1893, Oct. 4	BARTON, JOHN GEORGE, C.B. ...	General Valuation and Boundary Survey Office, 6, Ely Place, Dublin.
2751	1895, Sept. 2	BARTON, ROBERT CULLEY	Millmount Rd., Mullingar, West Meath.
1056	1884, Jan. 28	BATE, THOMAS	Salusbury House, 87, High Rd., Kilburn, N.W.
1986	1891, Mar. 14	BATEY, HENRY SIMPSON	51, King Street, Manchester.
726	1882, Feb. 13	BATH, FRED., F.R.I.B.A.	Crown Chambers, and Sandover House, Church Fields, Salisbury, Wilts.
1918	1891, Jan. 17	BATHER, JOHN T.	9, The Square, Shrewsbury.
3454	1899, Feb. 16	BATHGATE, CHARLES S.	26, Bellgrove Street, Glasgow.
2161	1891, Nov. 4	BATSTONE, ROWLAND ROBERT ...	110, Cannon Street, E.C.
1368	1887, Feb. 7	BATTAM, FREDERICK THOMAS ...	17, Hart Street, Bloomsbury, W.C., and 28, Mount St., Grosvenor Sq., W.
1580	1889, Feb. 25	BATTERBURY, THOMAS, F.R.I.B.A	Birkbeck Bank Chambers, Chancery Lane, W.C.
2162	1891, Nov. 4	BATTING, WALTER...	7, John Street, Adelphi, W.C.
2481	1892, Feb. 26	BAXTER, GEORGE	1, Frederick's Place, E.C., and Guildford.
1881	A. 1890, Nov. 22 F. 1898, Feb. 7	*BEADEL, MAURICE FREDERICK ...	97, Gresham Street, E.C.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
2163	1891, Nov. 4	Beale, Robert J., A.R.I.B.A. ...	Broadway House, The Broadway, Westminster, S.W.
2753	1895, Sept. 2	Beamish, William Henry... ...	2, South Mall, Cork.
1282	A. 1885, Dec. 7 F. 1889, Nov. 11	*Beard, Edwin Thomas, A.M.I.C.E.	Marazion, West Hill, St. Leonards-on-Sea Sussex.
3292	1898, Feb. 18	Beattie, William Halden... ...	11, Glencairn Crescent, Edinburgh.
1450	1888, Feb. 6	Beaumont, Charles	East Bridgford, near Nottingham.
2164	1891, Nov. 4	Beck, Arthur Clement	Castle Rising, King's Lynn, and Sandringham.
1457	1888, Feb. 20	Beck, Edward William	16, Bank Street, Norwich.
2165	1891, Nov. 4	Beck, Frank Reginald	Sandringham, Norfolk.
1561	1889, Jan. 28	Beckwith, Henry Langton ...	3, Cook Street, Liverpool.
959	A. 1883, May 25 F. 1887, May 23	*Bedells, Charles Herbert ...	6, John Street, Bedford Row, W.C.
317	1873, Dec. 8	Beeston, Fred., F.R.I.B.A. ...	30, Lincoln's Inn Fields, W.C.
1433	1888, Jan. 9	Beken, George	73, Moorgate Street, E.C.
1987	1891, Mar. 14	Beken, Walter	73, Moorgate Street, E.C.
1594	A. 1889, Feb. 25 F. 1895, Dec. 9	*Belcher, Edward John	Wantage, Berks.
3320	1898, Oct. 29	Bell, Andrew Walker	Corporation Buildings, Dunfermline.
2652	A. 1894, Oct. 30 F. 1898, May 16	*Bell, Herbert Owen...	9, Victoria Street, S.W.
1458	1888, Feb. 20	Bell, Joseph Askew	Rufford Estate Office, Ollerton, Notts.
1662	A. 1889, Dec. 9 F. 1894, Apr. 2	*Bellingham, Archibald Turner	Cheveley Estate Office, Newmarket, Cambridgeshire.
388	1875, Mar. 1	Bennett, Thomas Oatley... ...	Bruton, Somerset.
1212	A. 1884, Nov. 10 F. 1890, Dec. 8	*Benson, Robert Alan	Duchy of Cornwall Office, Liskeard, Cornwall.
1214	1884, Dec. 8	Bertwistle, James	1, Tackett's Street, Blackburn.
984	1883, Dec. 17	Bettridge, Edward	28, Waterloo Street, Birmingham.
2505	A. 1892, Nov. 28 F. 1894, Oct. 10	*Beven, Septimus	15, Moorfields, E.C.
1239	1885, Jan. 12	Bickerton, George Arthur ...	12, Cheapside, E.C.
190	1869, Mar. 22	Bidwell, Chas., M.A. (*Cantab.*) (*Member of Council*)	Ely, Cambridgeshire.
2625	A. 1894, Feb. 22 F. 1896, Feb. 3	*Bidwell, John Evans...	St. Mary's, Ely, Cambridgeshire.
3197	A. 1897, Oct. 26 F. 1900, May 21	*Bidwell, Phillip Shelford ...	St. Mary's Street, Ely, Cambridgeshire.
3037	1896, June 2	Bigger, John James Eastwood	Fairymount, Dundalk, Ireland.
3327	1898, Oct. 29	Billingham, John Alfred Lawrance	Royal Engineer Office, Shorncliffe Camp, Kent.
2167	1891, Nov. 4	Bilson, John, F.R.I.B.A.	23, Parliament Street, Hull, Yorkshire.
2059	1891, May 23	Bingham, Alfred John	Nalder Hill House, Newbury, and 5, Bolton Street, Piccadilly, W.
1919	1891, Jan. 17	Bingham, Frederick Henry ...	5, Bolton Street, Piccadilly, W.
396	1875, Apr. 12	Bingham, Reuben	5, Bolton Street, Piccadilly, W.
131	1868, Oct. 26	Binnie, Thomas ... ... (*Member of Council*)	207, Hope Street, Glasgow.
3321	1898, Oct. 29	Binnie, Thomas, Jun....	207, Hope Street, Glasgow.

ip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
934	A. 1895, Oct. 24 F. 1900, Oct. 1	*Birch, Francis Julian Laurence	Hillside, Yatton, Somerset.
569	A. 1893, Oct. 4 F. 1895, Apr. 29	*Birch, Richard Elwyn, B.A. (*Cantab.*)	Bryncelyn, St. Asaph, North Wales.
330	A. 1886, Dec. 6 F. 1889, Nov. 11	*Birch, Walter de Hoghton ...	Hoghton Estate Office, Walton Hall, Preston, Lancashire.
490	1888, Nov. 12	Bird, James Binfield...	West Cowes, Isle of Wight, & 28, Queen Street, E.C.
636	1889, Dec. 9	Bird, John	Brampton, Huntingdon.
154	1884, May 5	Bird, Walter	61, Edgware Road, W.
1351	A. 1887, Jan. 10 F. 1889, Feb. 25	Birkett, Tom	Foxton House, Penrith, Cumberland.
1794	1890, May 29	Bishop, Charles	Regent Circus, Swindon, Wilts.
2563	1893, Oct. 4	*Blackbourn, Henry	6, Queen Anne's Gate, S.W.
1326	1886, Dec. 6	Blackford, Arthur	61 and 62, Chancery Lane, W.C.
2754	1895, Sept. 2	Blackley, Travers Robert ...	Drumbar, Cavan, Ireland.
3455	1899, Feb. 16	Blair, Alexander	198, West George Street, Glasgow.
3200	A. 1897, Oct. 26 F. 1898, June 6	*†Blake, Edwin Holmes	82, Victoria Street, S.W.
1262	1885, Mar. 23	Blake, Frederick	130, Queen Street, Portsea, Hants.
2168	1891, Nov. 4	Blake, George	Stradey Estate Office, New Rd., Llanelly, Carmarthenshire.
883	1883, Feb. 12	Blake, William John, Jun. ...	45, High Street, Croydon.
773	1882, Mar. 13	Blakemore, William Agutter	6, Duke Street, Adelphi, W.C.
2755	1895, Sept. 2	Blakeney, Robert Edward ...	Creg Clare, Ardrahan, Co. Galway.
1057	1884, Jan. 28	Blashill, Thomas, F.R.I.B.A. (*Member of Council*)	29, Tavistock Square, W.C.
2169	1891, Nov. 4	Blencowe, George	Bury St. Edmunds, Suffolk.
2170	1891, Nov. 4	Bletsoe, Henry Hopkinson ...	Thrapston, Northamptonshire.
1988	1891, Mar. 11	Blizard, John Hy., A.M.I.C.E.	Lansdowne House, Castle Lane, Southampton.
511	A. 1878, May 13 F. 1887, Mar. 7	Blosse, Edward F. Lynch	Charles Street Chambers, Cardiff, Glamorganshire.
3154	A. 1897, Feb. 17 F. 1900, May 21	*Blunt, Montague Cecil	8, Westbourne Crescent, Hyde Park, W.
2171	1891, Nov. 4	Blyton, George	16, The Hawthorns, Church End, Finchley, N.
768	A. 1882, Feb. 27 F. 1889, Nov. 11	Boa, Andrew...	Great Thurloe, Newmarket, Suffolk.
1882	A. 1890, Nov. 22 F. 1893, Aug. 9	*Body, Arthur, A.R.I.B.A. ...	Princess Chambers, Princess Square, Plymouth, Devon.
1452	1888, Feb. 6	Body, John Bond...	Princess Chambers, Princess Square, Plymouth.
330	1874, Feb. 2	Bolam, Charles Godfrey ...	Estate Office, Boughton House, Kettering, Northamptonshire, and 82 & 83, Palace Chambers, S.W.
450	1876, May 8	Bolam, William Thomas	Cross House, Westgate Rd., Newcastle-upon-Tyne.
408	1875, Dec. 13	Bolden, John Leonard, M.A. (*Cantab.*)	Duchy of Lancaster Office, Lancaster Place, W.C.

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† Special Sanitary Science Certificate.

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2060	1891, May 23	Bond, Douglas Vale	22, Surrey Street, Strand, W.C.
199	1869, May 3	Bond, Erasmus	Combe Lodge, Kingston Hill, Surrey.
813	1882, May 22	Booker, Algernon Erskine	Albion House, Hyde Park Square, W.
3502	1899, Oct. 30	*Booker, Frank William	7, Albion Chambers, King St., Nottingham
2653	A. 1894, Oct. 30 F. 1895, Nov. 1	*Booth, Gilbert William	3, Adelaide Street, Charing Cross, W.C.
2172	1891, Nov. 4	Boothby, Henry Vernon	Estate Office, Keele, Newcastle, Staffordshire.
632	1881, Dec. 19	Botterill, William	Brookside, Newland Park, Hull, Yorkshire.
1883	A. 1890, Nov. 22 F. 1891, June 29	*Boulting, Frederick Edward	Napier Lodge, Minster, Kent.
1795	1890, May 29	Bourne, Robert Elliott	Elwell, Totnes, Devon.
1507	1888, Dec. 10	Bowden, John	14, Ridgefield, Manchester.
2134	A. 1891, May 23 F. 1899, Nov. 13	*Bowden, John Friendship	Bedford Chambers, Exeter, Devon.
2173	1891, Nov. 4	Bowdich, John	24, Coleman Street, E.C.
1777	1890, Apr. 14	Bowditch, Henry	103, George Street, Croydon.
3031	1896, June 2	Bowen, Edward Ferguson	Mantua House, Castlerea, Co. Roscommon, Ireland.
1778	1890, Apr. 14	Bowley, John Cross	Norman Terrace, Hastings, Sussex.
1491	1888, Nov. 12	Bowman, John James	Estate Office, Netherby, Carlisle, Cumberland.
3185	1897, Oct. 26	Boxshall, Henry Edwin	Horse Guards, Whitehall, S.W.
1685	1890, Jan. 6	Boyd, John Jermyn	Heath View, Weybridge, Surrey, and 125, Piccadilly, W.
1325	1886, Nov. 22	Brackett, Arthur William	27, High Street, Tunbridge Wells, Kent.
1884	A. 1890, Nov. 22 F. 1892, May 30	*Brackett, Frederick Henry	27, High Street, Tunbridge Wells, Kent.
870	1883, Jan. 29	Brackett, William	27, High Street, Tunbridge Wells, Kent.
2654	A. 1894, Oct. 30 F. 1895, July 29	*Bradley, James William, A.M.I.C.E.	Town Hall, Charing Cross Road, W.C.
2175	1891, Nov. 4	Bradley, William Edward	The Hall, Ebberston, York.
2571	A. 1893, Oct. 4 F. 1897, Feb. 8	*Bradshaw, Harry Greaves	28, Barton Arcade, St. Ann's Square Manchester.
2757	1895, Sept. 2	Bradshaw, Robert Macnevin	25, South Frederick Street, Dublin.
1562	1889, Jan. 28	Brady, Charles Alldis	17, Warren Street, Stockport, Cheshire
1524	A. 1888, Dec. 10 F. 1893, Nov. 13	*Brady, Ralph Hollinshed	78, Cross Street, Manchester.
1989	1891, Mar. 14	Brady, William Hollinshed	17, Warren Street, Stockport, Cheshire
1397	1887, Dec. 5	Brailsford, Henry	Park Nook, near Derby.
1441	1888, Jan. 23	Breach, Benjamin I'Anson	29, Fleet Street, E.C.
2924	1895, Oct. 24	*Breeds, Arthur Owen	62, Lincoln's Inn Fields, W.C.
727	1882, Feb. 13	Brereton, Franc Sadleir, F.R.I.B.A.	292, High Holborn, W.C.
2176	1891, Nov. 4	Brereton, Thomas Bloomfield Sadleir	292, High Holborn, W.C.
1920	1891, Jan. 17	Brewer, Frank John, F.R.I.B.A.	2, Upper Hill Street, Richmond, Surrey

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
1921	1891, Jan. 17	Briant, Robert	200, Kennington Park Road, S.E.
2758	1895, Sept. 2	Bridge, Henry Powell	Racket Hall, Roscrea, Tipperary.
829	1882, Dec. 18	Bridgewater, Bentley James	80, Cheapside, E.C.
1370	1887, Feb. 21	Bridgford, Ernest James	28, Cross Street, Manchester.
1309	1886, Mar. 8	Bridgford, Col. Robert, C.B.	28, Cross Street, Manchester.
3080	A. 1896, Oct. 28 F. 1900, Feb. 12	*Brighton, George Lawrence	20, Queenswood Road, Forest Hill, S.E.
2506	A. 1882, Nov. 28 F. 1896, Jan. 6	*Brinkworth, Robert Edwin	St. Mary's Street, Chippenham, Wilts.
2655	A. 1894, Oct. 30 F. 1899, Mar. 20	Brinsley, Herbert George William	30 and 31, New Bridge Street, E.C.
2759	1895, Sept. 2	Broadley, Edward Barry	73, South Mall, Cork.
2177	1891, Nov. 4	Brocklebank, John	58A, Yorkshire Street, Rochdale, and Crossbrook, Todmorden, Lancashire.
2178	1891, Nov. 4	Brodrick, Frederick Stead	Cogan Chambers, Bowl Alley Lane, Hull.
1990	1891, Mar. 14	Brooks, Charles W., A.R.I.B.A.	63, Finsbury Pavement, E.C.
2938	A. 1895, Oct. 24 F. 1897, Nov. 8	*Brooks, John McMullen	4, Queen Victoria Street, E.C.
2939	A. 1895, Oct. 24 F. 1899, Mar. 20	*Brooks, Philip Fuller	16, Barcombe Avenue, Streatham Hill, S.W.
1834	1890, Nov. 22	Broster, Robert Buck	Craven Bank Chambers, North Street, Keighley, Yorkshire.
2135	A. 1891, May 23 F. 1893, May 29	*Brown, Alexander Burnett	Amberley House, Norfolk St., Strand, W.C.
1664	A. 1889, Dec. 9 F. 1895, Mar. 18	*Brown, Arthur Macdonald, B.A. (*Cantab.*)	Tring, Herts.
3456	1889, Feb. 16	Brown, Charles	Kerse Estate Office, Falkirk, Stirlingshire
1500	1888, Nov. 26	Brown, Frank John	Tring, Herts.
3457	1899, Feb. 16	Brown, George	Hilton of Culsh, New Deer, Aberdeenshire.
634	1881, Dec. 19	Brown, George James	34, Great George Street, S.W.
2507	A. 1892, Nov. 28 F. 1899, Jan. 23	*Brown, George Turville	34, Great George Street, S.W.
933	1883, Apr. 30	Brown, John Powles	21, East Street, Hereford.
2061	1891, May 23	Brown, William	138, West Regent Street, Glasgow.
2761	1895, Sept. 2	Browne, Ernest H.	Brookfield, Tullamore, King's Co.
1142	A. 1884, Apr. 21 F. 1890, Apr. 14	Browne, Flint	30, Watling Street, E.C.
2762	1895, Sept. 2	Brownlow, Charles	Mountstewart, Newtownards, Co. Down.
2763	1895, Sept. 2	Brownlow, Claude	Estate Office, Coolderry, Carrickmacross, Co. Monaghan.
1046	A. 1884, Jan. 14 F. 1890, Mar. 24	Bruce, Robert Knight	Hathersage, by Sheffield.
2482	1892, Feb. 26	Bruton, Henry William	Albion Chambers, Gloucester.
3500	1899, Oct. 30	Bryant, George Herbert	Royal Engineer Office, Hong Kong, China.
2180	1891, Nov. 4	Bryden, Robert A., F.R.I.B.A.	212, St. Vincent Street, Glasgow.
1129	1886, Jan. 11	Brydon, Robert	The Dene, Seaham-Harbour, Durham.
77	1868, July 13	Buck, Albert (*Vice President*)	Worcester.

ip. Io.	Date of Election and of Transfer.	FELLOWS.	Address.
42	1889, Jan. 14	BUCK, HERBERT WILSON	Pierpoint Street, Worcester.
28	A. 1885, Dec. 7 F. 1889, Jan. 14	*BUCKLAND, ALFRED VIRGOE ...	8, Frederick's Place, Old Jewry, E.C.
70	1871, Dec. 18	BUCKLAND, FRANK BOWRY... ...	Windsor, Berks.
68	1890, Jan. 6	BUCKLAND, HENRY DUNEAU ...	4, Bloomsbury Sq., W.C., and Windsor.
36	A. 1891, May 23 F. 1894, Oct. 10	*BUCKLAND, SIDNEY CRAWFORD...	Windsor, Berks.
35	1890, Nov. 22	BUCKLEY, GEORGE	Tower Chambers, Halifax, Yorkshire.
81	1891, Nov. 4	BULL, ALFRED EDWIN	35, Craven Street, Charing Cross, W.C.
82	1891, Nov. 4	BULL, WALTER	35, Old Jewry, E.C.
22	1891, Jan. 17	BURCHELL, SIDNEY HERBERT ...	Reigate, Surrey, & Wool Exchange, E.C.
43	1889, Jan. 14	BURD, TIMOTHEUS HENRY	School Gardens, Shrewsbury.
03	A. 1897, Oct. 26 F. 1900, Nov. 12	*BURGESS, HENRY HERBERT PHILIP	127, Fordwych Road, Brondesbury, N.W.
64	1895, Sept. 2	BURKE, HENRY ANTHONY	Drumkeen, Ballinamallard, Co. Fermanagh.
65	1895, Sept. 2	BURKE, WILLIAM CREAGHE ...	Clonne, Ballinrobe, Co. Mayo.
96	1890, May 29	BURMESTER, JOHN WILLIAM STANLEY, F.R.I.B.A.	30, Lincoln's Inn Fields, W.C.
33	1891, Nov. 4	BURNET, FRANK	180, Hope Street, Glasgow.
97	1890, May 29	BURNETT, ALFRED ANDREW ...	2, High Street, Southampton, Hants.
35	1881, Dec. 19	BURNETT, DAVID	14, Nicholas Lane, E.C.
25	1889, May 13	‡BURNETT, GEORGE JOHN MULCASTER, M.A. (*Cantab.*)	Elstree Cottage, Elstree, Herts.
55	C.F. '96. June 2 F. 1897, June 28	BURNS, GAVIN JAS., B.SC. (*Lond.*)	Royal Engineer Office, The Nothe, Weymouth, Dorset.
79	1875, Feb. 1	BURROUGHES, THOMAS HENRY ...	30, Lincoln's Inn Fields, W.C., and 16, Lower Berkeley Street, W.
32	A. 1886, Dec. 6 F. 1890, Jan. 6	*BURROWS, ALFRED JOHN	41, Bank Street, Ashford, Kent.
16	1884, Dec. 8	BURTENSHAW, ALBERT...	Hailsham, Sussex.
56	A. 1898, Oct. 29 F. 1901, July 2	*BURTENSHAW, ALBERT KING ...	Hailsham, Sussex.
10	A. 1895, Oct. 21 F. 1897, Jan. 11	*BURTON, AMOS, A.M.I.C.E.	Borough Engineer's Office, Hanley, Staffs.
11	A. 1887, Dec. 19 F. 1891, May 25	*BUSHELL, HENRY	33, New Bridge Street, E.C.
7	A. 1894, Oct. 30 F. 1899, Nov. 13	*BUTLER, ALBERT ERNEST	20, Blagrave Street, Reading, Berks.
5	A. 1897, Oct. 26 F. 1900, May 21	*BUTLER, CHARLES	14, Queen Street, Huddersfield, Yorkshire.
6	1895, Sept. 2	BUTLER, WALTER SELBY	Green Mount Castle Bellingham, Co. Louth.
3	1874, Jan. 5	BUZZARD, ALFRED LINDSEY ...	22, Surrey Street, Strand, W.C.
7	1889, Dec. 9	BYRON, AUGUSTUS WILLIAM ...	Sutton Estate Offices, Duckmanton, Chesterfield, & 16, Gt. George St., S.W.

‡ Special Forestry Certificate.

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2184	1891, Nov. 4	Cable, James M., A.R.I.B.A.	56, Ludgate Hill, E.C.
1638	1889, Dec. 9	Cæsar, Charles Edward	105, Tooley Street, Southwark, S.E.
2185	1891, Nov. 4	Calvert, Arthur Richard	14, Low Pavement, Nottingham.
1798	1890, May 29	Campbell, Henry Hunter	Sutton Hall, St. Helen's, Lancashire.
1377	1887, Mar. 7	Canning, William Browne	Salisbury, Wilts.
787	A. 1882, Mar. 27 F. 1884, Jan. 14	Card, Henry Curtis	North Street, Lewes, Sussex.
2483	1892, Feb. 26	Cardona, Joseph, Jun.	Waterport Street, Gibraltar.
1799	1890, May 29	Carew, John Theodore	22, Surrey Street, Strand, W.C.
2659	A. 1894, Oct. 30 F. 1899, Jan. 23	*Carnell, Sydney George	Estate Office, Condover, Shrewsbury.
800	A. 1882, Apr. 24 F. 1883, Jan. 15	Carpenter, Evan George	45, High Street, Croydon, Surrey.
3206	A. 1897, Oct. 26 F. 1898, Oct. 3	*Carpmael, Harold	30a, Lincoln's Inn Fields, W.C.
232	A. 1870, Feb. 7 F. 1880, Nov. 22	Carritt, Ernest, A.R.I.B.A.	57, Lincoln's Inn Fields, W.C.
2767	1895, Sept. 2	Carroll, Theodore Frederick	80, South Mall, Cork.
2769	1895, Sept. 2	Carson, William B.	11, Westland Row, Dublin.
2187	1891, Nov. 4	Carswell, William	Capesthorne, Chelford, Cheshire.
2943	A. 1895, Oct. 24 F. 1898, Nov. 14	*Cartwright, Alfred Stott	Council Office, Wilmslow, Cheshire.
2188	1891, Nov. 4	Cartwright, Joshua, M.I.C.E.	Peel Chambers, Bury, Lancashire.
1991	1891, Mar. 14	Castell, Charles Smith	2, Pont Street, Belgrave Square, S.W
1603	1889, Mar. 18	Castle, Arthur	11, King Edward Street, Oxford.
2137	A. 1891, May 23 F. 1894, Nov. 12	*Castle, Harold	11, King Edward Street, Oxford.
637	1881, Dec. 19	Castle, Henry James	37, Bedford Row, W.C.
1201	A. 1884, May 26 F. 1887, Nov. 14	Castle, Sydney Charles Courtenay	40, Chancery Lane, W.C., and Neuste Auckland Road, Upper Norwood, S.
278	1872, Mar. 11	Castle, William Henry Baldwin	40, Chancery Lane, W.C.
362	1875, Jan. 4	Cave, Henry H.	Estate Office, Rugby, Warwickshire.
1480	1888, Apr. 30	Cave, Thomas Newman	Horton, Northamptonshire.
1836	1890, Nov. 22	Chalk, Henry Philip	Linton, Cambridgeshire.
2660	A. 1894, Oct. 30 F. 1896, Feb. 17	*Chambers, Theodore Gervase	4, Bloomsbury Place, W.C.
3155	A. 1897, Feb. 17 F. 1899, June 26	*Chamberlain, George Arthur Raddon	Leamington House, Malvern We Worcestershire.
1061	1884, Jan. 28	Chancellor, Albert	1, King Street, Richmond, Surrey, ar 51, Pall Mall, S.W.
219	1870, Jan. 10	Chancellor, Fred., F.R.I.B.A.	20, Finsbury Circus, E.C., and Chel ford, Essex.
3147	1897, Feb. 17	Chapman, George James	Royal Engineer Office, Brighton.
2189	1891, Nov. 4	Chapman, Henry James	50, Belgrave Road, S.W.
1800	1890, May 29	Charles, Richard Stafford	52, New Broad Street, E.C.
1768	1890, Mar. 24	Chart, Robert Masters	The Vestry Hall, Mitcham, Surrey.
2190	1891, Nov. 4	Chasemore, Philip	Ashleigh, Horsham, Sussex.

	Date of Election and of Transfer.	FELLOWS.	Address.
3	1891, Jan. 17	CHATTELL, DAVID JAMES	29A, Lincoln's Inn Fields, W.C.
1	1891, Nov 4	CHATTERTON, GEO., M.I.C.E. ...	6, The Sanctuary, Westminster, S.W.
1	1895, Sept. 2	CHATTERTON, ROBT. SMITH ...	Belmont, Raheney, Co. Dublin.
5	1890, Mar. 10	CHESTERTON, SIDNEY RAWLINS ...	22, Lower Phillimore Place, Kensington, W., and 51, Cheapside, E.C.
5	1884, Apr. 21	CHESTON, CHESTER	Dashwood House, New Broad Street, E.C.
2	1891, Mar. 14	CHESTON, HORACE, F.R.I.B.A. ...	5, Union Court, Old Broad Street, E.C.
2	1891, Nov. 4	CHETWOOD, STEPHEN	Waltham Abbey, Essex.
3	1891, Nov. 4	CHEW, HENRY VICTOR...	35, Great St. Helen's, E.C.
9	A. 1899, Oct. 30 F. 1900, Oct. 1	*CHICHESTER, RICHARD HERBERT	Cheswardine, Market Drayton, Salop.
1	1890, Feb. 24	CHILD, FRED	65 and 66, Chancery Lane, W.C., and 1, Station Road, New Barnet.
8	1896, Oct. 28	CHILD, HENRY JOHN	Royal Engineer Office, Sheerness-on-Sea, Kent.
7	1868, July 6	CHINNOCK, FREDERICK GEORGE	11, Waterloo Place, S.W.
2	A. 1884, Feb. 25 F. 1891, June 29	CHRISTY, ARCHIBALD ERNEST ...	12, Great St. Helen's, E.C.
7	1887, Jan. 10	CLARE, EDWARD LOVELL	37, Park Square, Leeds, Yorkshire, and 33, Friar Lane, Leicester.
4	1892, Feb. 26	CLARK, JOHN MCCLARE	Haltwhistle & Hexham, Northumberland.
9	1889, Dec. 9	CLARK, NATHANIEL	Beamish Park, R.S.O. Beamish, Co. Durham.
1	1882, Jan. 16	CLARK, SAMUEL	8, New Cavendish Street, W.
2	1882, Jan. 16	CLARKE, ALFRED DUDLEY	Estate Office, Abberley, Stourport, Worcestershire.
1	1890, May 29	CLARKE, CHRISTOPHER	Charlcot, Bedale, Yorkshire.
7	A. 1900, Oct. 30 F. 1901, July 2	*CLARKE, ERNEST SEYMOUR ...	2, Lancaster Place, Strand, W.C.
4	1891, Mar. 14	CLARKE, GEORGE ERNEST	12, Coleman Street, E.C.
4	A. 1884, Jan. 2 F. 1886, Jan. 11	CLARKE, HOWARD CHATFEILD ...	63, Bishopsgate Street Within, E.C.
8	1888, Dec. 10	CLARKE, JOHN WILLIAM	Guisborough, Yorkshire.
7	A. 1883, Dec. 17 F. 1889, Nov. 11	CLARKE, PERCY HENRY	2, Lancaster Place, W.C.
4	1891, Jan. 17	CLARKE, STANLEY CHATFEILD ...	202, Bishopsgate Street Without, E.C.
4	1891, Nov. 4	CLARKSON, JOHN, F.R.I.B.A. ...	Ormond Chambers, 28, Great Ormond Street, W.C.
7	1890, Nov. 22	CLARKSON, WILLIAM	136, High Street, Poplar, E.
0	A. 1899, Oct. 30 F. 1900, Oct. 30	*CLARKSON, WILLIAM, JUN.	136, High Street, Poplar, E.
6	1890, Jan. 6	CLIFTON, JAMES EDWARD, F.R.I.B.A.	Swanage, Dorset.
2	A. 1884, Mar. 10 F. 1889, Jan. 28	CLIFTON, WILLIAM EDWARD, F.R.I.B.A.	7, East India Avenue, Leadenhall Street, E.C.
1	1890, Jan. 27	CLOUGH, RICHARD CHARLES BUTLER...	Ty Maur, Denbigh, North Wales.
0	1886, Mar. 8	CLOUGH-TAYLOR, HORACE GEO. ...	39, Friar Lane, Leicester.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
78	A. 1868, July 13 F. 1875, May 10	Clutton, John Henry	9, Whitehall Place, S.W.
61	A. 1868, July 6 F. 1874, Apr. 13	Clutton, Ralph	9, Whitehall Place, S.W.
221	A. 1870, Jan. 10 F. 1875, Dec. 13	Clutton, Ralph William	Hartswood, Reigate, Surrey.
65	1868, July 13	Clutton, Robert George	9, Whitehall Place, S.W.
153	1869, Jan. 11	Clutton, William James	The Mount, York, and The Cast Cockermouth.
1285	A. 1885, Dec. 7 F. 1894, May 28	*Coales, Herbert George A.M.I.C.E.	Market Harborough Local Board Offic Market Harborough.
713	1882, Jan. 30	Cobb, Herbert Mansfield ...	Higham, Kent, and 53, Lincoln's I Fields, W.C.
1544	1889, Jan. 14	Cobham, Charles	"The Shrubbery," Gravesend, Kent, a Local Board Office, Grays, Essex.
1885	A. 1890, Nov. 22 F. 1894, Apr. 16	*Cobham, George William ...	1 & 3, Edwin Street, Gravesend, Ken
3006	1896, Jan. 21	Cochrane, John	Combermore, Lifford, Co. Donegal.
3661	A. 1900, Oct. 30 F. 1901, July 2	*Cochrane, William James ...	Woodlands, Hetton-le-Hole, Durham.
2196	1891, Nov. 4	Cocks, Samuel Roger	5, St. Thomas' St., Ryde, Isle of Wig
3059	1896, Oct. 28	Coleman, Thomas Everit... ...	Royal Engineer Office, Gosport, Hant
1839	1890, Nov. 22	Coles, Samuel Hood Cowper ...	Penmyarth, Crickhowell, S. Wales.
769	A. 1882, Feb. 27 F. 1884, Feb. 11	Colgate, Thomas...	Sheffield Park, Uckfield, Sussex.
2197	1891, Nov. 4	Collier, Walter Henry	130, Strand, W.C.
1414	A. 1887, Dec. 19 F. 1891, Feb. 2	Collingham, John Cyril Lees	6, Mount Street, W.
3328	1898, Oct. 29	Collins, Charles Edwin	Royal Engineer Office, Colchest Essex.
119	1868, Aug. 17	Collins, Henry Hyman, F.R.I.B.A.	61, Old Broad Street, E.C.
3083	A. 1896, Oct. 28 F. 1900, May 21	*Collins, Horace	5, Randolph Road, W.
826	A. 1882, Dec. 4 F. 1891, Jan. 19	Collins, Marcus E.	61, Old Broad Street, E.C.
1925	1891, Jan. 17	Colyer, Frederick, M.I.C.E. ...	14, Victoria Street, S.W.
3186	1897, Oct. 26	Comber, Patrick Forstall, M.I.C.E.	19, Lower Leeson Street, Dublin.
1501	1888, Nov. 26	Combes, Cyrus	Tisbury, Wilts, and Misterton, Cr kerne, Somerset.
2062	1891, May 23	Commin, Frederick James ...	7, Bedford Circus, Exeter, Devon.
1926	1891, Jan. 17	Conder, Alfred, F.R.I.B.A ...	Palace Chambers, 9, Bridge Street, S
3174	1897, Oct. 26	Connor, George Harry Adams	Estates Office, Longniddry, N.B.
1564	1889, Jan. 28	Cooke, Henry	25, Watts Avenue, Rochester, Kent.
2627	A. 1894, Feb. 23 F. 1897, May 31	*Cooper, Alfred William	10, Dingwall Road, Croydon, S.E.
1172	1884, May 19	Cooper, Arthur Leslie	17, Friar Street, Reading, Berks.
715	1882, Jan. 30	Cooper, John Groves...	Bideford, Devon.
1927	1891, Jan. 17	Cooper, John Robert...	35, Old Jewry, E.C., and Queen's Lo West End Lane, W. Hampstead, N.
2773	1895, Sept. 2	Coote, Orlando Robert	Auburn, Athlone, Ireland.

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1895, Sept. 2	Coote, Stanley Victor, M.A. (*Oxon.*)	The Orchard House, Wargrave, Berks, & Carrowroe Pk., Roscommon, Ireland.
A. 1891, Jan. 17 F. 1895, Jan. 21	*Cope, Henry James	100, Jermyn Street, St. James's, S.W.
1891, Nov. 4	Copland, William Robertson, M.I.C.E.	146, West Regent Street, Glasgow.
1889, Mar. 4	Corbett, Edwin Wortley Montagu	Bute Estate Office, Castle St., Cardiff.
1891, Nov. 4	Corby, Joseph Boothroyd	15, All Saints' Place, Stamford, Lincolnshire
A. 1891, Nov. 4 F. 1892, May 30	*Corderoy, Athelstane	12, George Street, Plymouth, Devon, & 21, Queen Anne's Gate, S.W.
1889, Feb. 25	Corderoy, George	21, Queen Anne's Gate, S.W.
1895, Sept. 2	Cordner, Clement Kennedy	Estate Office, Antrim, Ireland.
1898, Oct. 29	*Cotterell, Albert Player Isaac	Scottish Buildings, 28, Baldwin Street, Bristol.
A. 1883, Apr. 16 F. 1889, Nov. 11	Couchman, Henry Boteler	Moor Park Estate Office, Rickmansworth, Herts.
1883, Apr. 30	Couchman, Robert Edward	35, Paradise Street, Birmingham.
1891, Nov. 4	Coulson, William Lindsay	Kesterven, Cromwell Road, Canterbury, Kent.
1880, Jan. 5	Coverdale, Frederick John	Ingatestone Hall, Essex.
1882, Feb. 13	Coverdale, Henry	11, St. Helen's Place, E.C.
1890, Nov. 22	Cowgill, Brian Bollans Hird	13A, Piece Hall Yard, Bradford.
A. 1897, Oct. 26 F. 1900, Nov. 12	*Cowper, William Shapland	81, High Street, Sittingbourne, Kent.
1890, Feb. 24	Cox, Edward Samuel	3, New Street, York.
A. 1893, Oct. 28 F. 1900, May 21	*Cox, Walter Theodore	Belmont, College Road, Maidstone, Kent.
1891, Nov 4	Cranfield, William Bathgate	6, Poultry, E.C.
1869, Jan. 25	Crawter, John	Cheshunt, Herts.
A. 1883, May 25 F. 1888, Nov. 26	Crawter, John, Jun.	41, Bedford Row, W.C., and Cheshunt, Herts.
1896, Jan. 21	Creagh, Arthur Gethin	Mallow, Co. Cork.
A. 1897, Oct. 26 F. 1899, May 29	*Creswell, William Thomas	Royal Engineer Office, Weedon, Northamptonshire.
1869, Jan. 25	Crickmay, George Rackstrow, F.R.I.B.A.	13, Victoria St., S.W., and St. Thomas Street, Weymouth, Dorset.
1889, Dec. 9	Crickmay, John Edward	Weymouth, Dorset.
A. 1891, Nov. 4 F. 1896, Jan. 6	*Crier, John Thomas	12, Hoveden Road, Cricklewood, N.W.
1891, Nov. 4	Crockett, Edwin Arthur Brassey	Bush Lane House, Cannon Street, E.C.
A. 1881, Feb. 7 F. 1890, Feb. 24	Crofts, Ewan Nevile	Caythorpe, Grantham, Lincolnshire.
1882, Feb. 13	Cronk, Edwyn Evans	12, Pall Mall, S.W., & Sevenoaks, Kent.
1882, Feb. 13	Cronk, Frank	12, Pall Mall, S.W., & Sevenoaks, Kent.
1883, Jan. 29	Cronk, William Henry	Sevenoaks, Kent.
1895, Sept. 2	Crosbie, James Dayrolles	Gurtenard, Listowel, Co. Kerry.
A. 1891, May 23 F. 1898, May 16	*Cross, Arnold Charles Martin	9, Victoria Street, S.W.

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1754	1890, Mar. 10	Cross, William Haslam	77, King Street, Manchester.
2206	1891, Nov. 4	Crowther, John Herbert	38, New Street, Huddersfield, Yorkshi
2947	A. 1895, Oct. 24 F. 1899, Oct. 2	*Crowther, Keston Nelson	"Holwood," 29, Macaulay Rd., Clapha Common, S.W.
2208	1891, Nov. 4	Cruwys, Robert	51, Upper Tulse Hill, S.W.
3175	1897, Oct. 26	Cullen, Alexander	Brandon Chambers, Hamilton, N.B.
3368	A. 1898, Oct. 29 F. 1899, Dec. 11	*Culverhouse, Cecil Goldar Fearn	9, Whitehall Place, S.W.
1928	1891, Jan. 17	Cumberland, Edward Anthony	Luton and Leighton Buzzard.
3458	1899, Feb. 16	Cunningham, Robert	Branxholme, Hawick, Roxburghshi N.B.
1565	1889, Jan. 28	Currey, Percivall, F.R.I.B.A.	37, Norfolk Street, W.C.
3459	1899, Feb. 16	Curror, John Fortune	74, George Street, Edinburgh.
1381	1887, Mar. 21	Curry, Henry John	58, High Street, Stockton-on-Te Durham.
581	1880, Dec. 13	Curtis, Charles Edward	Woodlands, Brockenhurst, Hants.
483	1877, Apr. 16	Curtis, Robert Leabon	119 and 120, London Wall, E.C.
2209	1891, Nov. 4	Cuxson, George Austin Pryce, A.R.I.B.A.	5, Duke Street, Adelphi, W.C.
638	1881, Dec. 19	Dallas, Edwin Stuart	34, Great James St., Bedford Row, W
3218	A. 1897, Oct. 26 F. 1901, Feb. 11	*Dangerfield, Thomas Samuel	14, St. George's Terrace, South K sington, S.W.
987	1883, Dec. 17	Daniel, Harry Augustus Hood	Hill End, Henbury, near Bristol.
732	1882, Feb. 13	Dann, Henry	Dartford, Kent.
3293	1898, Feb. 18	Dansken, Alexander Brown	105, West George Street, Glasgow.
2210	1891, Nov. 4	Dansken, John	241, West George Street, Glasgow.
1666	A. 1889, Dec. 9 F. 1891, Apr. 6	*Darch, John	55, West Side, Wandsworth Common, S
2778	1895, Sept. 2	Darley, Edmund Sanders	5, College Green, Dublin.
2777	1895, Sept. 2	Darley, Henry Ponsonby Shaw	Estate Office, Carrick-on-Shannon, Leitrim.
907	A. 1883, Feb. 26 F. 1891, May 25	Dash, Roland Ashford	9, Whitehall Place, S.W., and Walton- Thames.
3669	A. 1900, Oct. 30 F. 1901, July 2	*Daubney, Charles Archibald	1, Wellington Road, Peckham, S.E.
1527	A. 1888, Dec. 10 F. 1892, July 4	*Davey, Henry Thomas	Cumberland Villa, St. Anne's, Lew Sussex.
848	A. 1882, Dec. 18 F. 1890, Nov. 10	David, Edmund Ussher	Old Bank Chambers, 27, High St., Car Glamorganshire.
3460	1899, Feb. 16	Davidson, Charles	Terrace Buildings, Paisley, Renfrewsh
3176	1897, Oct. 26	Davidson, James Inglis	Sangton Mains, Edinburgh, & 175, W George Street, Glasgow.
2575	A. 1893, Oct. 4 F. 1896, Mar. 2	*Davies, Cyril Froodvale	Froodvale, Llanwrda, R.S.O., S. Wal

Date of Election and of Transfer.	FELLOWS.	Address.
A. 1892, Nov. 28 F. 1894, Oct. 10	*Davies, David Thomas	11, Serle Street, Lincoln's Inn, W.C.
1888, Dec. 10	Davies, George Humphreys	8, Laurence Pountney Hill, E.C.
1873, Feb. 10	Davies, John Morgan	Froodvale, Llanwrda, South Wales.
1891, Nov. 4	Davis, Alfred Thomas, A.M.I.C.E.	Shirehall, Shrewsbury, Shropshire.
1891, Mar. 14	Davis, Charles Edward, B.A. (*London*)	Wroxton Estate Office, near Banbury, Oxon.
A. 1882, Mar. 13 F. 1889, Nov. 11	Davis, Charles James	32, Strand, W.C.
A. 1877, Dec. 10 F. 1881, Nov. 14	Davis, James	32, Strand, W.C.
1883, Feb. 26	Daw, William Herbert	6, Ironmonger Lane, E.C.
A. 1898, Oct. 29 F. 1900, Oct. 1	*Dawson, George Crosbie	Daisyfield, Nuneaton, Warwickshire.
1891, Nov. 4	Dawson, Percy John	Zinal, Palace Rd., Streatham Hill, S.W.
1889, Dec. 9	Day, George Carleton	Estate Office, Woodbridge, Shaftesbury, Dorset.
A. 1883, Dec. 17 F. 1887, Nov. 14	*Day, William, Jun.,	23, High Street, Maidstone, Kent.
1882, Jan. 16	Deacon, Thomas Mark	32, Craven Street, Charing Cross, S.W.
1895, Sept. 2	Dean, George B.	Balla Lodge, Castlebar, Co. Mayo.
A. 1892, Nov. 28 F. 1893, Aug. 9	*Debenham, Frank Bridgewater	80, Cheapside, E.C.
1888, Jan. 23	Debenham, Frank Gissing	Cheshunt Park, Herts, & 80, Cheapside, E.C.
A. 1893, Oct. 4 F. 1899, Jan. 23	*Debenham, Frederic Kersey	80, Cheapside, E.C.
A. 1891, May 23 F. 1893, Aug. 9	*Debenham, Horace Bentley	80, Cheapside, E.C.
1891, Nov. 4	Deer, Edward	Stratford-on-Avon, Warwickshire.
A. 1883, Dec. 17 F. 1891, Oct. 15	Demetriadi, Thomas Marsden	28, John William Street, Huddersfield.
A. 1889, Dec. 9 F. 1894, Jan. 22	*Dendy, William Cooper	Surveyor's Department, Town Hall, Kennington Green, S.E.
1891, Jan. 17	Dennison, John W., F.R.I.B.A.	28, Upperton Gardens, Eastbourne, Sussex.
1895, Sept. 2	Denny, Francis McGillycuddy	17, Denny Street, Tralee, Co. Kerry.
1882, Feb. 27	Dew, William Arthur	Wellfield House, Bangor, Carnarvonshire
1895, Sept. 2	Dickinson, Charles, B.A. (*Dublin*)	36, South Frederick Street, Dublin.
A. 1884, Dec. 8 F. 1885, May 18	*Dickson, Thomas Arthur	Estate Office, Overston Park, Northampton.
A. 1894, Oct. 30 F. 1897, May 10	*Dinwiddy, Donald	Greenwich, S.E.
1883, Feb. 12	Dinwiddy, Thomas, F.R.I.B.A.	Greenwich, S.E.
A. 1869, Feb. 8 F. 1878, Feb. 25	Dodgson, Wilfred Longley	The Court, Cleobury North, Bridgnorth, and 55, Broad Street, Ludlow.
1884, Apr. 21	Doll, Charles Fitzroy	74, Gower Street, Bedford Square, W.C.
1891, Nov. 4	Dollar, Peter, A.R.I.B.A.	Clock House, Arundel St., Strand, W.C.

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2782	1895, Sept. 2	Dolling, Caledon Josias Radclyffe	3, Lower Pembroke St., Merrion S Dublin.
1415	A. 1887, Dec. 19 F. 1891, Dec. 7	*Done, John James	Cricklewood, N.W.
1250	1885, Feb. 9	Donne, Henry	55, Pall Mall, S.W., and Leek Woott Warwick.
2218	1891, Nov. 4	Dorning, Arthur Harry	41, John Dalton Street, Manchester.
163	A. 1869, Jan. 25 F. 1882, Nov. 31	Dowden, Henry Joseph	8, Craig's Court, Charing Cross, S.W.
493	1878, Jan. 14	Downing, Frederick	12, King's Bench Walk, Temple, E.C.
1997	1891, Mar. 14	Downing, Henry Philip Burke, F.R.I.B.A.	Avalon, Wilton Rd., Merton, Surrey 7, Great College St., S.W.
2219	1891, Nov. 4	Dowsett, Charles Finch	3, Lincoln's Inn Fields, W.C.
1841	1890, Nov. 22	Dransfield, Henry Brook	12, 13, & 14, Estate Buildings, Hudd field, Yorkshire.
817	A. 1882, May 22 F. 1884, May 19	Draper, Arthur Thomas	Friar Lane, Leicester.
1348	1887, Jan. 10	Dray, Alfred	Town Hall Chambers, Hastings, Suss
301	1873, Feb. 10	Drew, Henry *(Vice-President.)*	15, Queen Street, Exeter, Devon.
1336	A. 1886, Dec. 6 F. 1888, Nov. 12	*Drew, Henry Alban	15, Queen Street, Exeter, Devon.
1095	A. 1884, Feb. 11 F. 1889, Jan. 14	Drew, John Gould, B.A. *(Oxon)*	15, Queen Street, Exeter, Devon.
2220	1891, Nov. 4	Dreweatt, Thomas	Newbury, Berkshire.
419	A. 1876, Jan. 10 F. 1878, Feb. 25	Driver, Charles William	23, Pall Mall, S.W.
582	1880, Dec. 13	Driver, Robert Manning	23, Pall Mall, S.W.
684	1882, Jan. 16	Drury, Edw. Dru, F.R.I.B.A.	25, Queen Anne's Gate, S.W.
1692	A. 1890, Jan. 6 F. 1893, Dec. 4	*Dudley, Edgar	Bedford House, 24, Bedford St., Plymo Devon.
1802	1890, May 29	Duke, Edward	Dorchester, Dorset.
1803	1890, May 29	Duke, Freke Guy Rashleigh	Braehead, Kilmarnock, Ayrshire.
2064	1891, May 23	Duke, Henry	Dorchester, Dorset.
1779	1890, Apr. 14	Duncalfe, Henry George	81, Darlington Street, Wolverhamp Staffordshire.
2221	1891, Nov. 4	Duncan, James Morison	40 & 42, Queen Victoria Street, E.C.
3536	A. 1899, Oct. 30 F. 1900, Oct. 1	*Dunlop, Dugdale Oakeley	20, Booth Street, Manchester.
1931	1891, Jan. 17	Dunn, William Henry	11, St. Helen's Place, E.C.
3148	1897, Feb. 17	Durlacher, Alexander Percy	3, Otterburn Villas North, Jesm Newcastle-upon-Tyne, Northum land.
1932	1891, Jan. 17	Duvall, John William	The Grange, Ware, Herts.
2222	1891, Nov. 4	Dyball, Harvey	35, Bucklersbury, E.C.
792	1882, Apr. 24	Dyer, William John	Montpelier Row, Blackheath, S.E.
35	1868, June 15	Dymond, Francis Williams	21, Southernhay West, Exeter, Dev

ip. No.	Date of Election and of Transfer.	FELLOW.	Address.
251	1885, Feb. 9	EADE, ARTHUR WILLOUGHBY FRENCH, M.A. (*Cantab.*)	Branson House, Darlington, Durham.
529	A. 1888, Dec. 10 F. 1892, May 30	*EAGLAND, WILLIAM FRANCIS	274, Portland Rd., South Norwood, S.E.
584	1889, Feb. 25	EAGLE, WILLIAM	Westminster Buildings, 37, Brown St., Manchester.
364	1883, Jan. 15	EALES, FRED. ERNST., F.R.I.B.A.	9, Welbeck Street, W.
585	1889, Feb. 25	EAMES, EDWARD	Compton, Winchester, Hants.
934	1891, Jan. 17	EARDLEY, JOHN WILLIAM	The Grove, Alfreton, Derbyshire.
223	1891, Nov. 4	EARLE, THOMAS ALGERNON	90, King Street, Manchester.
224	1891, Nov. 4	EARNSHAW, JACOB	78, King Street, Manchester.
577	A. 1893, Oct. 4 F. 1897, Feb. 8	*EASON, EDWARD WILLIAM	43, Bishopsgate Street Without, E.C.
090	A. 1896, Oct. 2 F. 1900, June 27	*EASTER, WILLIAM	Wiggenhall St. German, King's Lynn, Norfolk.
999	1891, Mar. 14	EAYRS, JOHN THOS., M.I.C.E.	Clarence Chambers, Corporation Street, Birmingham.
784	1895, Sept. 2	EDGEWORTH, THOS. NEWCOMEN	Kilshrewly, Edgeworthstown, Co. Longford.
579	A. 1893, Oct. 4 F. 1896, Jan. 6	*EDMONDS, JOHN	The Estate Office, Drayton House, Thrapston, Northamptonshire.
226	1891, Nov. 4	EDWARDS, ARTHUR PHIPPEN	Hutton, near Weston-super-Mare, Somerset.
639	1881, Dec. 19	EGERTON, HUBERT DECIMUS	29, Fleet Street, E.C.
988	1883, Dec. 17	EGGAR, JAMES ALFRED	9, West Street, Farnham, Surrey.
949	A. 1895, Oct. 24 F. 1896, Nov. 9	*EGGINTON, DENYS	150, Friar Street, Reading, Berks.
173	1884, May 19	EGGINTON, JOHN	150, Friar Street, Reading, Berks.
530	A. 1879, Jan. 20 F. 1883, Dec. 3	EILOART, FREDERICK EDWARD	40, Chancery Lane, W.C.
629	1889, Nov. 25	ELDRIDGE, HERBERT	28, Martin's Lane, Cannon St., E.C., & 28, Cadogan Place, Belgrave Sq., S.W.
227	1891, Nov. 4	ELFORD, JOHN	King Street, Poole, Dorset.
434	1888, Jan. 9	ELGAR, J. EDWARD	Crockshard, Wingham, Kent.
886	A. 1890, Nov. 22 F. 1892, Feb. 1	ELGOOD, FRANK MINSHULL, A.R.I.B.A.	98, Wimpole Street, W.
401	1887, Dec. 19	ELLEN, FREDERICK CHARLES	The Auction Mart, Andover, Hants.
036	1884, Jan. 14	ELLIOTT, CHARLES	16, Ermington Terrace, Plymouth, Devon.
514	A. 1892, Nov. 28 F. 1896, Mar. 2	*ELLIS, ALBERT EDWARD	Bedford Chambers, Exeter, Devon.
785	1895, Sept. 2	ELLIS, ERNEST FRANCIS LESLIE	Estate Office, Bantry, Co. Cork.
577	A. 1880, Mar. 15 F. 1887, Nov. 14	ELLIS, ERNEST HAROLD	Town Hall Chambers, Guildford, Surrey.
887	A. 1890, Nov. 22 F. 1894, May 21	*ELLIS, FRANCIS, JUN.	Trafford Park, Patricroft, near Manchester.
065	1891, May 23	ELLIS, FREDERICK	141, Inverness Terrace, W.
530	A. 1888, Dec. 10 F. 1890, May 12	*ELLIS, HERBERT MOATES	9, Walbrook, E.C.
365	A. 1887, Jan. 24 F. 1891, Feb. 16	*ELLIS, RALPH STAPLES	29, Fleet Street, E.C.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
885	1883, Feb. 12	Ellis, Richard Adam	45, Fenchurch Street, E.C.
380	1875, Feb. 1	Ellis, Sir John Whittaker, Bart.	29, Fleet St., and 18, Old Broad St., E.C.
3060	1896, Oct. 28	Elton, Herbert Averill	Royal Engineer Office, The Castle, Cape Town, South Africa
667	A. 1881, Dec. 19 F. 1890, Dec. 8	Elwell, William Henry	Surveyor's Office, Great Northern Railway, King's Cross, N.
3305	1898, Feb. 18	Emery, Arthur James	Horse Guards, Whitehall, S.W.
276	1872, Feb. 26	Emmanuel, Barrow	2, Finsbury Circus, E.C.
2230	1891, Nov. 4	Evans, Arthur Owen	Town Hall, Pontypridd, Glamorganshire.
1936	1891, Jan. 17	Evans, George	Adelphi House, 10, Duke Street, W.C.
898	1883, Feb. 26	Evans, Robert, F.R.I.B.A.	Eldon Chambers, Wheeler Gate, Nottingham.
2231	1891, Nov. 4	Evans, Walter Pearson	Caldwell, Nuneaton, Warwickshire.
2232	1891, Nov. 4	Evans, William, A.M.I.C.E.	New Walk, Beverley, Yorkshire.
2786	1895, Sept. 2	Evans, William	Gillardstown House, Killucan, Co. Westmeath.
338	A. 1874, Feb. 16 F. 1876, Nov. 27	Evans, William Ernest	School Gardens, Shrewsbury, Shropshire.
2000	1891, Mar. 14	Evans-Vaughan, Henry	St. Peter's Chambers, Bournemouth, Hants.
2664	A. 1894, Oct. 30 F. 1901, Feb. 11	*Eve, Charles Gerald	Kitley Estate Office, Yealmpton, near Plymouth, Devon.
1416	A. 1887, Dec. 19 F. 1891, May 25	*Eve, Herbert Trustram	2, St. Paul's Square, Bedford.
685	1882, Jan. 16	Eve, John Richard	St. Paul's Square, Bedford.
104	1868, Aug. 3	Eve, William	10, Union Court, Old Broad Street, E.C
3503	1899, Oct. 30	*Eve, William Harold	10, Union Court, E.C.
1382	1887, Mar. 21	Everard, John Breedon, M.I.C.E., F.R.I.B.A.	6, Millstone Lane, Leicester.
2233	1891, Nov. 4	Everill, Frank	59, Foregate Street, Worcester.
2665	A. 1894, Oct. 30 F. 1900, Nov. 12	*Everington, John	Effingham House, Arundel Street, Strand, W.C.
2666	A. 1894, Oct. 30 F. 1895, Nov. 25	*Eves, Francis George Bertram	54, High Street, Uxbridge, Middlesex.
1549	A. 1889, Jan. 14 F. 1892 Nov. 14	*Eves, William Lionel	54, High Street, Uxbridge, Middlesex.
1510	1888, Dec. 13	Fair, James Stretton	Estate Offices, Lytham, and 4, Winckle Street, Preston, Lancashire.
1174	1884, May 19	Fair, Thomas	Estate Offices, Lytham, Lancashire.
1937	1891, Jan. 17	Fairclough, William	Leigh, Lancashire, and 60, King Stree Manchester.
1758	1890, Mar. 10	Falcon, Michael	Horstead House, Norfolk.
1062	1884, Jan. 28	Farmer, Edmund	80, Cheapside, E.C.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
2951	A. 1895, Oct, 24 F. 1899, Oct. 2	*Farmer, Hugh Cecil	9, Whitehall Place, S.W.
2234	1891, Nov. 4	Farnan, Henry Richard	75, Coleman Street, E.C.
1759	1890, Mar. 10	Farrar, Sidney Howard M.I.C.E.	54, Old Broad Street, E.C., and Port Elizabeth, Johannesburg, S. Africa.
2787	1895, Sept. 2	Farrell, Edward Francis	Moynalty, Kells, Co. Meath.
2002	1891, Mar. 14	Farrer, John (*Member of Council*)	Oulton, near Leeds, Yorkshire.
2235	1891, Nov. 4	Farthing, Walter Thomas	46, Strand, W.C.
1938	1891, Jan. 17	Farwell, Frederick George	11, Laura Place, Bath, Somersetshire.
3069	1896, Oct. 28	Fawcett, John Mortimer	26, Albion Street, Leeds, Yorkshire.
1037	1884, Jan. 14	Fayerman, George Metcalfe	88, The Parade, Leamington, Warwickshire.
2925	1895, Oct. 24	*Fenn, Andrew Thomas Cranage	The Lodge, Bromfield, Shropshire.
1402	1887, Dec. 19	Fenn, John	The Hall, Ardleigh, and 146, High Street Colchester, Essex.
1712	1890, Feb. 10	Fenn, Thomas	Downton Castle, Ludlow, Shopshire.
565	A. 1880, Jan. 19 F. 1887, Apr. 18	Fenning, Herbert Samuel	Fairfield, Ashburnham Road, Bedford.
2003	1891, Mar. 14	Fenwick, Thomas, M.I.C.E.	Leeds, Yorkshire.
974	1883, Nov. 12	Ferris, George	Milton Manor, Pewsey, Wilts.
2788	1895, Sept. 2	Fetherstonhaugh, Theodore	Grouse Lodge, Moate, Co. Westmeath.
831	1882, Dec. 18	Fiddian, William	Old Bank Offices, Stourbridge, Worcestershire
297	1873, Jan. 27	Field, Francis Hayward	11, King Edward Street, Oxford.
872	1883, Jan. 29	Field, James Frederick	54, Borough High Street, S.E.
2926	1895, Oct. 24	*Fields-Clarke, George Thomas	Estate Office, Southill Park, Biggleswade, Beds.
2236	1891, Nov. 4	Finn, Adolphus	High Street, Lydd, Kent.
2517	A. 1892, Nov. 28 F. 1896, May 11	*Finn, Fred. Jun.	Shepherd's Hill, Selling, Faversham, Kent.
2456	A. 1891, Nov. 4 F. 1894, Oct. 10	*Finn, Herbert Archibald	Egham, Surrey.
927	A. 1883, Apr. 16 F. 1889, Jan. 14	Fisher, Charles Browning	Hill Crest, Market Harborough, Leicestershire.
2581	A. 1893, Oct. 4 F. 1896, Mar. 2	*Fitt, Harry Charles	42, Arlington Road, Ealing, W.
3007	1896, Jan. 21	Fitzgerald, Jas. H. B. Penrose	The Estate Office, Middleton, Co. Cork.
2789	1895, Sept. 2	Fitzgerald, Peter David	66, George Street, Limerick.
2790	1895, Sept. 2	Fitzgerald, Robert John	Ballyard House, Tralee, Co. Kerry.
2791	1895, Sept. 2	Fitzherbert, Henry Corry	Millbrook, Abbeyleix, Queen's County.
3504	1899, Oct. 30	*Fletcher, Banister Flight	29, New Bridge Street, E.C.
2582	A. 1893, Oct. 4 F. 1897, June 28	*Fletcher, Herbert Phillips, A.R.I.B.A., A.M.I.C.E.	29, New Bridge St., Ludgate Circus, E.C.
1465	1888, Mar. 5	Fletcher, Thomas	Estate Office, Dunkenhalgh, Clayton-le-Moors, near Accrington, & 46, Fishergate, Preston, Lancashire.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
749	A. 1882, Feb. 13 F. 1891, June 29	FLINT, WILLIAM HURST	11, Searle St., Lincoln's Inn Fields, W.C.
1734	1890, Feb. 24	FODEN, EDWARD ANTROBUS ...	Teddesley Estate Office, Penkridge, Staffs.
2794	1895, Sept. 2	FORBES, ARTHUR	Earls Vale, Cavan, Ireland.
2067	1891, May 23	FORBES, CHARLES MANSFELDT ...	14, New Street, York.
2238	1891, Nov. 4	FORD, LAWTON ROBERT	St. Thomas's Chambers, 24, Railway Approach, London Bridge, S.E.
2518	A. 1892, Nov. 28 F. 1895, May 13	*FORD, SOLOMON, A.R.I.B.A. ...	3, South Square, Gray's Inn, W.C.
640	1881, Dec. 19	FORREST, ROBERT	Windsor Estate Office, St. Fagans, near Cardiff.
551	1879, Dec. 8	FORSHAW, EDWARD	Hanley, Staffordshire, and Springfields Stramshall, Uttoxeter, Staffordshire.
1844	1890, Nov. 22	FORSYTH, THOMAS HILLS	39, Northumberland St. Newcastle-upon-Tyne, Durham.
3294	1898, Feb. 18	FORTUNE, GEORGE ROBERT... ...	Charleton Estate Office, Colinsburgh, Fife, N.B.
1039	1884, Jan. 14	FOSBERY, WILLIAM THOMAS EXHAM...	Warwick.
279	1872, Mar. 11	FOSTER, CHARLES ROLLS	54, Pall Mall, S.W.
1531	A. 1888, Dec. 10 F. 1892, Oct. 12	*†FOSTER, FRANK, A.R.I.B.A. ...	8, Duke Street, Adelphi, W.C.
2519	A. 1892, Nov. 28 F. 1895, Nov. 1	*FOSTER, JAMES HERBERT FURMEDGE...	9, Craig's Court, Charing Cross, S.W.
641	1881, Dec. 19	FOSTER, JOSEPH BURGESS	4, Cambridge Street, Plymouth, Devon.
687	1882, Jan. 16	FOULKES, SEPTIMUS GIFFORD ...	Tring, Herts.
3187	1897, Oct. 27	FOWLER, ALFRED MOUNTAIN, M.I.C.E.	1, St. Peter's Square, Manchester, and 35, Old Queen Street, S.W.
686	1882, Jan. 16	FOWLER, FREDERICK	St. James' Street, Sheffield, Yorkshire.
1806	1890, May 29	FOWLER, GERARD EDMUND... ...	Colmore House, 21, Waterloo Street, Birmingham.
1807	1890, May 29	FOWLER, HENRY	63, Dale Street, Manchester.
832	1882, Dec. 18	FOWLER, HENRY	6, Waterloo Street, Birmingham.
1780	1890, Apr. 14	FOWLER, REGINALD WILLIAM ...	3, Hartshead, Sheffield, Yorkshire.
1403	1887, Dec. 19	FOWLER, RICHARD	118, Colmore Row, Birmingham.
1605	1889, Mar. 18	FOWLER, SYDNEY, A.R.I.B.A. ...	9, Craig's Court, Charing Cross, S.W.
2240	1891, Nov. 4	FOWLER, WILLIAM	69, Temple Row, Birmingham.
2241	1891, Nov. 4	FOX, CHARLES JAMES	7, Rawson Street, Halifax, Yorkshire.
1845	1890, Nov. 22	FOX, EDWIN	99, Gresham Street, E.C.
2669	A. 1895, Mar. 18 F. 1899, Oct. 2	*FOX, FREDERICK RUSSELL	The Imperial Hotel, Barnstaple, Devon.
2422	1891, Nov. 4	FRAMPTON, ALFRED, A.R.I.B.A.	62 and 63, Basinghall Street, E.C.
2243	1891, Nov. 4	FRANCE, ARTHUR ALDERSON ...	99, Swan Arcade, Bradford, Yorkshire.
2244	1891, Nov. 4	FRANCE, CHARLES...	99, Swan Arcade, Bradford, Yorkshire.
1545	1889, Jan. 14	FRANCIS, GEORGE FUTVOYE ...	Eaton Chambers, Buckingham Palace Road, S.W.
1760	1890, Mar. 10	FRANCIS, LEON ALBERT	8, John Street, Adelphi, W.C.
1808	1890, May 29	FRANKLIN, ARTHUR THOMAS ...	25, Ludgate Hill, E.C.
2457	A. 1891, Nov. 4 F. 1895, Feb. 18	*FRANKLIN, BENJAMIN BELGROVE	21, Market Hill, Luton, Beds.

† Special Sanitary Science Certificate.

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1809	1890, May 29	Franklin, Thomas Frederick	25, Ludgate Hill, E.C.
2792	1895, Sept. 2	Franks, Matthew Henry	Westfield, Mountrath, Queen's County.
2793	1895, Sept. 2	Franks, Matthew Henry, Jun.	Westfield, Mountrath, Queen's County.
3019	A. 1896, Jan. 21 F. 1897, June 28	*Fraser, Thomas Smellie	209, St. Vincent Street, Glasgow.
1967	A. 1891, Jan. 17 F. 1894, Dec. 10	*Fraser, William	209, St. Vincent Street, Glasgow.
1114	A. 1884, Feb. 25 F. 1890, Apr. 14	Freeman, Sydney	The Broadway, Tunbridge Wells, Kent and 28, Queen Street, E.C.
3038	1896, June 2	French, Savage	2, South Mall, Cork, Ireland.
2796	1895, Sept. 2	Frend, Causabond William	Parsonstown, King's County.
2795	1895, Sept. 2	Frend, Henry	Mitchelstown, Co. Cork.
1217	1884, Dec. 8	Freuer, William	West Rudham, King's Lynn, Norfolk.
2069	1891, May 23	Frost, Frederic Cornish	Teignmouth, Devon.
369	1875, Jan. 18	Fry, George Frederick	46, London Road, Dover, Kent.
3331	1898, Oct. 29	*Fry, Joseph Harry	64, Craven Park, Willesden, N.W.
734	1882, Feb. 13	Fryer, George	Conservancy Buildings, Whitefriargate, Hull, & Rose Villa, Bishop Wilton, nr. York.
1063	1884, Jan. 28	Fuller, Ernest	98, Wimpole Street, W.
1040	1884, Jan. 14	Fuller, Harry	83, High Street, Croydon.
947	A. 1883, May 21 F. 1888, Nov. 26	Fuller, Herbert Henry	15, Serjeants' Inn, Fleet Street, E.C.
1124	A. 1884, Mar. 10 F. 1891, Apr. 20	Fuller, Thomas Alfred	The College, All Saints', Derby.
775	1882, Mar. 13	Furber, Herbert	2, Warwick Court, Gray's Inn, W.C.
1417	A. 1887, Dec. 19 F. 1898, May 2	*Furber, Percy Norman	6, Great Winchester Street, E.C.
1064	1884 Jan. 28	Furber, William	2, Warwick Court, Gray's Inn, W.C.
3226	A. 1897, Oct. 26 F. 1901, Jan. 14	*Furmedge, John Harris	Estate Office, Lucknam, Chippenham, Wilts.
3461	1899, Feb. 16	Fyfe, John William	221, West George Street, Glasgow.
417	1876, Jan. 10	Gairdner, Edward James	43, Chancery Lane, W.C.
2797	1895, Sept. 2	Galbraith, Hugh	21, Westland Row, Dublin.
3061	1896, Oct. 28	Galbraith, Samuel Haughton, M.A., B.E. (*Dublin*)	Royal Engineer Office, Cork, Ireland.
2245	1891, Nov. 4	Gale, Arthur John, F.R.I.B.A.	4, Serjeants' Inn, Fleet Street, E.C.
2004	1891, Mar. 14	Gale, Ernest Sewell	Falcon Court, 32, Fleet Street, E.C.
761	1882, Feb. 27	Gale, Joseph John	Market Place, Wallingford, Berks.
55	1868, July 6	Galsworthy, Frederick Thomas (*Vice-President*)	11, Waterloo Place, S.W.
1713	1890, Feb. 10	Gamble, Sidney Gompertz, A.M.I.C.E.	Metropolitan Fire Brigade, Southwark Bridge Road, S.E.
606	1889, Mar. 18	Gandy, James	22, Essex Street, Strand, W.C.

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735	1882, Feb. 1	GARDINER, EDWARD JAMES	110, Great Russell Street, W.C.
3377	A. 1898, Oct. 29 F. 1899, Nov. 13	*GARDINER, ROBERT STRACHAN	23, Pall Mall, S.W.
2520	A. 1892, Nov. 28 F. 1895, Mar. 4	*GARDNER, GILBERT	Ifield Court, Crawley, Sussex.
2954	A. 1895, Oct. 24 F. 1898, Nov. 14	*GARNER, JOHN STANLEY	8, The Parade, Hanwell, Middlesex.
2246	1891, Nov. 4	GARRARD, NORTON BURROUGHS	Cranley Hall, Eye, Suffolk.
2798	1895, Sept. 2	GARRETT, JAMES HUGH MOORE	Corriewood, Castlewellan, Co. Down.
2247	1891, Nov. 4	GARROOD, THOMAS WILLIAM M.	172, Fenchurch Street, E.C.
2799	1895, Sept. 2	GARVEY, TOLER ROBERT	Thornvale, Moneygall, King's County.
2800	1895, Sept. 2	GARVEY, TOLER ROBERT, JUN.	Estates Office, Parsonstown, King's Co.
1810	1890, May 29	GATE, ALFRED JOSEPH	20, Mecklenburgh Square, W.C.
3540	A. 1899, Oct. 30 F. 1901, July 2	*GATE, HENRY ARTHUR AMYTAGE	20, Mecklenburgh Square, W.C.
688	1882, Jan. 16	GATER, CALEB WILLIAM	Salisbury, Wilts.
1203	A. 1884, May 26 F. 1889, Jan. 14	GAYFORD, HENRY JOHN	Raynham Estate Office, East Raynham, Norfolk.
1643	1889, Dec. 9	GAZE, THOMAS WILLIAM	Frenze Hall, Diss, Norfolk.
3501	1899, Oct. 30	GEDDES, ANDREW DONALD	Royal Engineer Office, Belfast, Ireland.
935	1883, Apr. 30	GERMAN, GEORGE	Packington House, Ashby-de-la-Zouch, Leicestershire.
2521	A. 1892, Nov. 28 F. 1895, Nov. 11	*GERMAN, GEORGE, JUN.	Huntingdon House, Ashby-de-la-Zouch.
2070	1891, May 23	GERMAN, HARRY	Market Street, Ashby-de-la-Zouch, and Loughborough.
887	1883, Feb. 12	GERMAN, JOHN	Ashby-de-la-Zouch, Leicestershire.
1294	A. 1886, Jan. 11 F. 1890, Nov. 10	GIBBON, WM. JACOMB, A.R.I.B.A.	57, Lincoln's Inn Fields, W.C.
1620	1889, Apr. 29	GIBSON, DENSTON	Colmore House, 21, Waterloo Street Birmingham.
1668	A. 1889, Dec. 9 F. 1893, May 8	*GIDDY, OSMAN HORTON	4, Waterloo Place, Pall Mall, S.W.
381	1875, Feb. 1	GILBERT, WILLIAM HENRY SAINSBURY	70, Queen Street, Cheapside, E.C.
3462	1899, Feb. 16	GILCHRIST, JOHN	70, Wellington Street, Glasgow.
3765	1901, Feb. 21	GILCRIEST, JOHN FAWCETT	General Valuation Office, 6, Ely Place Dublin.
1621	1889, Apr. 29	GILLART, DAVID	Towyn, Merionethshire.
3463	1899, Feb. 16	GILLESPIE, JOHN	Blackhall, Paisley, Renfrewshire.
1466	1888, Mar. 5	GILPIN-BROWN, WILLIAM DUNDAS	Starton, Kenilworth, Warwickshire.
213	1869, Dec. 6	GIRDWOOD, JAMES	18, Adam Street, Adelphi, W.C.
2249	1891, Nov. 4	GIVEN, MAXWELL	Town Surveyor's Office, Coleraine, C Derry, and Portrush, Co. Antrim.
420	1876, Jan. 24	GLASIER, GEORGE HENRY BROUGHAM	7, St. James's Street, S.W.
1702	1890, Jan. 27	GLEED, RICHARD CUMMINGS	8 & 9, Martin's Lane, Cannon St., E.C.
177	1897, Oct. 26	GLENDINNING, GEORGE ROBERT	Hatton Mains, Kirknewton, Midlothia
2801	1895, Sept. 2	GLOSTER, THOMAS EDWARD	Collon, Co. Louth.
2672	A. 1894, Oct. 30 F. 1898, June 27	*GLOVER, HENRY ALEXANDER	21, Dahomey Street, Streatham, S.W.

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3095	A. 1896, Oct. 28 F. 1900, Oct. 1	*GOADBY, HOWARD	1 & 2, Station Yard, Twickenham.
2802	1895, Sept. 2	GODLEY, ARCHIBALD	Killygar, Killeshandra, Co. Cavan.
2250	1891, Nov. 4	GODSELL, GEORGE HERBERT	Palace Chambers, King St., Hereford.
3228	A. 1897, Oct. 26 F. 1900, Feb. 12	*GOLDSMITH, DOUGLAS FLEET	Lavant Street, Petersfield, Hants.
2005	1891, Mar. 14	GOLDSMITH, WILLIAM	40, Old Broad Street, E.C.
2251	1891, Nov. 4	GOODACRE, JOHN, F.R.I.B.A.	5, Friar Lane, Leicester.
1511	1888, Dec. 10	GOODACRE, ROBT. J., F.R.I.B.A.	Friar Lane, Leicester.
989	1883, Dec. 17	GOODCHILD, JOSIAH	59, Tollington Park, N.
1546	1889, Jan. 14	GOODWYN, LEONARD WILLIAM	8, Granville Chambers, Granville Place, Portman Square, W.
314	A. 1873, May 19 F. 1878, Mar. 11	GORE, SPENCER W.	7, Whitehall Place, S.W.
1939	1891, Jan. 17	GOTT, CHARLES, M.I.C.E.	8, Charles Street, Bradford, Yorkshire.
2252	1891, Nov. 4	GOTT, CHARLES HENRY	8, Charles Street, Bradford, Yorkshire.
1567	1889, Jan. 28	GOTT, FRANK	3, East Parade, Leeds, Yorkshire.
478	A. 1877, Feb. 12 F. 1882, Dec. 18	GOTTO, FREDERICK EDWARD	Stony Stratford, Bucks.
3158	A. 1897, Feb, 17 F. 1897, May 31	*GOULDING, ARTHUR	41, Moorgate Street, E.C.
578	1880, Apr. 12	GOULDING, WILLIAM PURDHAM	41, Moorgate Street, E.C.
2071	1891, May 23	GOULDSMITH, GEORGE WALLER	2, Pont Street, Belgrave Square, S.W.
2072	1891, May 23	GOVER, ARTHUR SUTTON, F.R.I.B.A.	4, Queen Street Place, E.C.
2253	1891, Nov. 4	GOVER, JOHN RICHARD	44, Great Dover Street, Borough, S.E.
1846	1890, Nov. 22	GRADWELL, ARTHUR RICHARD	29, Victoria St., Blackburn, Lancashire.
2254	1891, Nov. 4	GRAHAM, ARTHUR GORE	"Brynawel," Usk, Monmouthshire.
370	1875, Jan. 18	GRAHAM, WILLIAM	Bank Chambers, Newport, Monmouthshire.
1218	1884, Dec. 8	GRAIN, ARTHUR TRESS	2, St. Andrew's Hill, Cambridge.
827	A. 1882, Dec. 4 F. 1885, Jan. 12	GRANT, JAMES	Penrallt, Llanidloes, Montgomeryshire.
1260	1885, Mar. 9	GRAVES, WALTER, F.R.I.B.A.	Winchester House, Old Broad St., E.C.
2255	1891, Nov. 4	GREAVES, JOHN OLDROYD	69, Westgate, Wakefield, Yorkshire.
1891	A. 1890, Nov. 22 F. 1894, Jan. 22	*GREEN, ALEXANDER ERNEST	Colonial House, 155, Fenchurch St., E.C
2141	A. 1891, May 23 F. 1897, May 31	*GREEN, EDMUND HORACE	28 and 29, St. Swithin's Lane, E.C.
2584	A. 1893, Oct. 1 F. 1897, May 31	*GREEN, FREDERICK ALGERNON	28 and 29, St. Swithin's Lane, E.C.
690	1882, Jan. 16	GREEN, JAMES	22, Chancery Lane, W.C.
3149	1897, Feb. 17	GREENWOOD, JOSEPH	Royal Engineer Office, Devonport, Devon
3150	1897, Feb 17	GREGORY, ALFRED	44, Charing Cross, S.W.
2955	A. 1895, Oct. 21 F. 1896, June 26	*GREGSON, GEORGE ERNEST	11, Chapel Street, Preston, Lancashire.
2257	1884, Feb. 11	GREGSON, WILLIAM	Baldersby, S.O., Yorks.
1087	1891, Nov. 4	GRELLIER, HARLEY MAIR	6, Queen Anne's Gate, S.W., and Epsom, Surrey.
371	1875, Jan. 18	GREY, CHARLES GREY, M.A. *(Durham)*	Ballycourcy, Enniscorthy, Co. Wexford

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2673	A. 1894, Oct. 30 F. 1896, May 11	*Griffin, Alfred	St. Thomas' Chambers, 24, Railway Approach, London Bridge, S.E.
2073	1891, May 23	Griffin, Harold	54, High Street, Battersea, S.W.
1714	1890, Feb. 10	Griffiths, Edward	Knockin, near Oswestry, Shropshire.
1736	1890, Feb 24	Griffiths, William	Gelley-Wernen Estate, Llanelly, Carmarthenshire.
2258	1891, Nov. 4	Griggs, Robert, A.R.I.B.A.	11, Gray's Inn Square, W.C.
1611	1889, Apr. 1	Grimley, Edwin Fearn	40, Temple Street, Birmingham.
1612	1889, Apr. 1	Grimley, Thomas	40, Temple Street, Birmingham.
2486	1892, Feb. 26	Grogan, Henry Thomas	101, Park Street, Grosvenor Square, W.
1811	1890, May 29	Grose, Vincent J., F.R.I.B.A.	13, Railway Approach, S.E.
1727	A. 1890, Feb. 10 F. 1893, Jan. 23	*Grover, Arthur	11, Cecil Court, Charing Cross Rd., W.C.
2674	A. 1894, Oct. 30 F. 1899, Jan. 23	*Grover, Philip Gordon	Boveney, Sandgate Rd., Folkestone, Kent.
2260	1891, Nov. 4	Gruning, Edward A., F.R.I.B.A.	25, Gresham House, Old Broad St., E.C.
1737	1890, Feb. 24	Gudgeon, George Edward	Estate Agency Offices, Winchester, Hants.
1550	A. 1889, Jan. 14 F. 1900, May 21	*Gunter, James	Estate Office, Glasbury, Radnorshire.
433	1876, Mar. 20	Gwyther, William Warlow, F.R.I.B.A.	26, Bedford Row, W.C.
2262	1891, Nov. 4	Habgood, Henry Charles	Witney, Oxfordshire.
347	1874, Mar. 16	Haddock, Roland	Richmond Chambers, Bournemouth Hants.
1670	A. 1889, Dec. 9 F. 1893, Aug. 9	*Hadley, Frank	59A, Temple Row, Birmingham.
2523	A. 1892, Nov. 28 F. 1896, Oct. 1	*Haigh, Thomas Frederick	2, Friar Lane, Leicester.
2263	1891, Nov. 4	Hale, Raymond Henry	6, Great Queen Street, S.W.
619	1881, May 2	Hall, Ernest	56, Commercial Rd., Portsmouth, Hants
3098	A. 1896, Oct. 28 F. 1897, June 28	*Hall, John Herbert	6, South St., Albert Square, Manchester 2, Dunham Road, Altrincham, an Knutsford, Cheshire.
1619	A 1889, Apr. 1 F. 1891, Dec. 7	*Hall-Jones, Frederick	Parliament Mansions, Victoria Street S.W., and 35, The Broadway, Ealing, W
923	1883, Apr. 16	Hall, Walter	38, Chancery Lane, W.C.
295	A. 1886, Jan. 11 F. 1891, June 29	*Hall, William Timothy	College Hill, Shrewsbury.
1189	1884, May 26	Hallett, William Brown	11, Queen Victoria, Sreet, E.C., and 27 Holloway Road, N.
2803	1895, Sept. 2	Hamilton, Arthur	40, Lower Dominick Street, Dublin.
2804	1895, Sept. 2	Hamilton, Edward Chetwood, Major	Woodstock Estate Offices, Inistioge, C Kilkenny.

Date of Election and of Transfer.	FELLOWS.	Address.
1890, Feb. 24	Hamilton, John	23 and 24, Wormwood Street, E.C.
1898, Feb. 18	Hamilton, Robert	Lands Valuation Office, Greenock, Renfrewshire.
1897, Feb. 17	Hammond, Robert William	Royal Engineer Office, Gibraltar.
A. 1891, May 23 F. 1896, Jan. 6	*Hampton, George Fredk. Wm.	1, Cockspur Street, S.W.
1891, Nov. 4	Hampton, Willie Thomas	Swan St., Loughboro', Leicestershire.
1890, Jan. 6	Hankinson, Thomas James	Richmond Chambers, Bournemouth, Hants.
1885, Jan. 12	Hannen, Reginald St. John	The Cottage, Fordingbridge, Salisbury, Wilts., and Penlee, Sheen Road, Richmond, Surrey.
A. 1883, Feb. 12 F. 1889, Jan 14	*†Hansell, Reginald Goddard	5, Lancaster Place, Strand, W.C.
1885, Jan. 26	Hanson, Amos	35, Church Street, St. Helen's, Lancs.
1891, Nov. 4	Hanson, John Henry, A.M.I.C.E.	20, Ramsden Street, Huddersfield, Yorkshire.
1881, Dec. 19	Hardcastle, Frederick Henry Appleton, A.R.I.B.A.	5, Old Queen Street, S.W.
A. 1877, Mar. 26 F. 1882, Dec. 18	Harding, Edward Ernest	66, Cannon Street, E.C.
1881, Dec. 19	Harding, Sidney Longhurst	St. Albans, Herts.
1895, Sept. 2	Hardman, Edward Chambré	14, Molesworth Street, Dublin.
1888, Apr. 30	Hardy, Richard Thomas Ash	Land Agency and Estate Offices, Carter Street, Uttoxeter, Staffordshire.
1889, Apr. 1	Hargreaves, Stephen	Brabyns Estate Office, Manor House, Marple, Cheshire.
1891, May 23	Harland, Marchant James	Strafford Road, High Barnet, Herts.
1891, Mar. 14	Harle, John Joseph	Tortworth Estate Office, Falfield Gloucester.
1891, Nov. 4	Harpur, William, M.I.C.E.	Town Hall, Cardiff, Glamorganshire.
A. 1878, Jan. 28 F. 1883, Oct. 11	Harrington, George Frederick	16, Abchurch Lane, E.C.
1883, Dec. 17	Harris, James	Winchester, Hants.
1897, Oct. 26	*Harrison, Charles	179, Hornington Street, Burton-upon-Trent, Staffordshire.
A. 1894, Oct. 30 F. 1901, Apr. 29	*Harrison, George John Robertson	30, Larkhall Rise, Clapham, S.W.
1890, Feb. 24	Harrison, James Thomas	Town Hall Offices, Buckingham.
A. 1897, Oct. 26 F. 1899, Dec. 11	*Harrison, John Edward	Estate Office, Allestree, near Derby.
1891, May 23	Harrison, Richard Creese, F.R.I.B.A.	103, Cannon Street, E.C.
1890, May 29	Harston, Arthur	15, Leadenhall Street, E.C.
1898, Feb. 18	Hart, Patrick Campbell, A.M.I.C.E.	134, St. Vincent Street, Glasgow.
1899, Feb. 16	Hart, John	Cowie Mains, Stonehaven, Kincardineshire.
1871, Feb. 27	Hart, William Frederick	Lambeth Waterworks, Brixton Hill, S.W.

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† Special Sanitary Science Certificate.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
2730	1895, Mar. 6	Hartley, Henry	Bristow Chambers, 8, Harrington Str Liverpool.
806	1895, Sept. 2	Harvey, James Geo. Morewood	Northern Bank Buildings, Londonde
523	A. 1878, Dec. 9 F. 1890, Jan. 6	Harvey, John James Sayer	80, Castle Street, Canterbury, Kent.
1551	A. 1889, Jan 14 F. 1891, Oct. 15	Haskins, William Albion	12, King's Bench Walk, Temple, E.C.
312	1873, May 19	Haslam, Dryland	Friar Street Chambers, Reading Berl
1672	A. 1889, Dec. 9 F. 1893, Aug. 9	*Haslam, Dryland, Jun.	Friar Street Chambers, Reading Berl
962	A. 1883, May 25 F. 1889, Apr. 1	*Hasluck, Lancelot Gerald	Green Hill Park, New Barnet, Herts.
2268	1891, Nov. 4	Hawker, Harry Edwin	St. Peter's Chambers, Bournemo Hants.
1472	1888, Mar. 19	Hawkins, Charles	Downham Market, Norfolk.
1608	1889, Mar. 18	Hawley, Sir Henry Michael, Bart.	Tumby Lawn, Boston, Lincolnshire.
2269	1891, Nov. 4	Haynes, Henry	Estate Office, Clifton, Nottingham.
1513	1888, Dec. 10	Hayton, Joseph William	9, Bank Street, Carlisle, Cumberland
2076	1891, May 23	Hayton, Pattinson	9, Bank Street, Carlisle, Cumberland
1968	A. 1891, Jan. 17 F. 1894, Apr. 2	*Hayward, Frederick George	Market Square, Dover, Kent.
644	1881, Dec. 19	Hayward, Henry	Dover, Kent.
3233	A. 1897, Oct. 26 F. 1900, June 27	*Hayward, Thomas William Alfred	Borough Surveyor, Sudbury, Suffolk
1253	1885, Feb. 23	Haywood, Henry	9, West Street, Hereford.
1254	1885, Feb. 23	Haywood, William Matthews	9, West Street, Hereford.
1673	A. 1889, Dec. 9 F. 1891, May 25	*Head, John George	7, Upper Baker Street, N.W.
3383	A. 1898, Oct. 29 F. 1901, Apr. 29	*Healing, Oswald Judd	11, Manor Villas, Church End, Finchle
833	1882, Dec. 18	Heard, Herbert	Shepton Mallet, Somerset.
2807	1895, Sept. 2	Hearn, Charles Richard	Annaghroe House, Caledon, Co. Tyr
2677	A. 1891, Oct. 30 F. 1898, Mar. 7	*Heasler, Holland Charles	Verandah Cottage, Hill Rise, Richm Surrey.
2270	1891, Nov. 4	Heath, Henry	34, Finsbury Pavement, E.C.
692	1882. Jan. 16	Heaton, George Herbert	Endon, near Stoke-upon-Trent, Staff
617	1881, Apr. 4	Hebblethwaite, Louis	Conservancy Buildings and Anlaby Hull, Yorkshire.
1327	1886, Dec. 6	Hedley, John Hunt	7, Ashbrook Terrace, Sunderland.
1088	1884, Feb. 11	Hedley, Robert Wilkin	41, Parliament St. S.W., & 31A, Col Row, Birmingham.
1740	1890, Feb. 24	Heelis, William	26, Budge Row, E.C.
821	A. 1882, Nov. 13 F. 1890, Jan. 6	Henderson, Henry Arthur	48, Finsbury Pavement, E.C.
1328	1886, Dec. 6	Hendriks, Henry	43, Cannon Street, Birmingham, & Craig's Court, Charing Cross, S.W
3465	1899, Feb. 16	Henry James	Lands Valuation Office, City Cham Glasgow.
1378	1887, Mar. 7	Hepper, John	East Parade, Leeds, Yorkshire.
1219	1884, Dec. 8	Herbert, Allan	The Market Place, Andover, Hants

Date of Election and of Transfer.	FELLOWS.	Address.
1896, June 2	*Hern, Samuel	94, St. Mary Street, Cardiff, Glamorganshire.
1888, Jan. 9	Heskett, William James	St. Andrew's Churchyard, Penrith and Viaduct Chambers, Carlisle, Cumberland.
A. 1894, Oct. 30 F. 1895, Dec. 9	*Heward Ernest James	52, Wickham Road, Brockley, S.E.
1895, Sept. 2	Hewson, George Rawdon Maurice	Dromahair, Co. Leitrim.
1890, Feb. 10	Hickman, Thomas	College Court, Shrewsbury, Shropshire.
1891, May 23	Hickson, Stephen Westby	Telephone Buildings, 31, Queen Victoria Street, E.C.
1884, Jan. 28	Higgins, Frederic	Alford, Lincolnshire.
A. 1889, Dec. 9 F. 1891, May 25	*Higgins, George	12, Finchley Rd., St. John's Wood, N.W.
1891, May 23	Hill, Thomas Nelson	180, Hope Street, Glasgow.
1886, Mar. 22	Hill, William Burrough	62, Above Bar, Southampton, Hants.
A. 1886, Jan. 25 F. 1890, Mar. 24	Hilliard, George Edward	Chelmsford, Essex.
1887, Apr. 18	Hilton, John	30, Budge Row, E.C., and 17, Montpelier Row, Blackheath, S.E.
1891, May 23	Hincks, Henry Thorp	Wigston Hall, Leicester.
1891, Nov. 4	Hindle, John	24, Bank Street, Bradford, Yorkshire.
1891, Nov. 4	Hinds, Henry	57, Queen Street, Ramsgate, Kent.
A. 1881, Dec. 19 F. 1883, Nov. 12	Hine, George Ernest	5, Waterloo Place, S.W.
1883, Feb. 26	Hine, George Thomas	35, Parliament Street, S.W., and Victoria Street, Nottingham.
1890, Apr. 14	Hippisley, Edwin Maggs	4, Chamberlain Street, Wells, Somerset.
1890, Apr. 14	Hippisley, William John	12, Chamberlain Street, Wells, Somerset.
1882, May 22	Hitchcox, William	Bank Chambers, Newport, Monmouthshire.
1890, Mar. 24	Hobbs, John	Estate Office, Ashford, Kent.
1878, Dec. 9	Hobgen, Francis Neale	East Street, Chichester, Sussex.
1891, May 23	Hobgen, Thomas Cecil	Highleigh, Sidlesham, near Chichester, Sussex.
1883, Feb. 12	Hobson, Frederick William	79, Coleman Street, E.C.
1891, Mar. 14	Hobson, Harry	Swinefleet, near Goole, Yorkshire.
1878, Dec. 9	Hodson, George, M.I.C.E.	Loughborough and Abbey Building, Princes Street, Westminster, S.W.
1895, Sept. 2	Hodson, Gilbert Neville	Hollybrooke, Bray, Co. Wicklow.
1895, Sept. 2	Hodson, Richard Edmond, M.A. (*Dublin*)	Coolfadda House, Bandon, Co. Cork.
1891, Nov. 4	Hodson, William	7, Finsbury Square, E.C.
1891, May 23	Hoggarth, Arthur	Kendal, Westmoreland.
1891, May 23	Hoggarth, Edwin	69, Highgate, Kendal, Westmoreland.
1882, Apr. 24	Holbeche, Robert Neville	21, Bennett's Hill, Birmingham.
1874, Nov. 16	Holden, John, F.R.I.B.A.	5, St. James's Square, Manchester.
1884, May 5	Holiday, Frederick Dean	Bicester, Oxfordshire.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
2587	A. 1893, Oct. 4 F. 1897, Feb. 8	*Holiday, Percy Cave	Bicester, Oxfordshire.
3387	A. 1898, Oct. 29 F. 1901, July 2	*Holl, Mackintosh Meleng ...	Sywell, Northamptonshire.
893	A. 1883, Feb. 12 F. 1889, Nov. 11	Holland, Thomas James, Jun...	14, Raleigh Gardens, Brixton Hill, S.
2277	1891, Nov. 4	Hollingsworth, Arthur Augustus	Bishop's House, 1, Bishopsgate Stre Without, E.C.
3190	1897, Oct. 26	*Hollis, Walter Dawson	26, Park Row, Leeds, Yorkshire.
2278	1891, Nov. 4	Holloway, Harry Hownam ...	Market Harborough, Leicestershire.
2279	1891, Nov. 4	Holman, George Edward ...	6, King's Bench Walk, Temple, E.C.
1272	1885, Nov. 9	Holme, John	Owlet Ash, Milnthorpe, Westmorelan
2009	1891, Mar. 14	Holmes, Montagu	33, Paternoster Row, E.C.
2811	1895, Sept. 2	Holmes, William Eden	69, Dann Street, Dublin.
2280	1891, Nov. 4	Holt, George Hy., A.M.I.C.E. ...	20, Richmond Terrace, Blackburn, L cashire.
2281	1891, Nov. 4	Homan, Franklin George ...	184, Eastgate, Rochester, Kent.
1595	A. 1889, Feb. 25 F. 1897, May 31	*Homan, Hubert Franklin ...	184, Eastgate, Rochester, Kent.
1741	1890, Feb. 24	Honeyball, Fred. Thomas ...	Deal, Kent.
1031	A. 1896, Oct. 28 F. 1900, Dec. 10	*‡Hood, Thomas	Birdbrook, Halstead, Essex.
3040	1896, June 2	*Hood, Walter Richard	37, Walbrook, E.C.
1446	A. 1888, Jan. 23 F. 1896, Jan. 6	*Hooper, Cecil Henry	Highlands, Swanley, Kent.
2964	A. 1895, Oct. 24 F. 1899, Nov. 13	*Hooper, Edgar Wilfred	Conway, North Wales.
3548	A. 1899, Oct. 30 F. 1900, Oct. 1	*Hope, Arthur Ernest	Great Eastern Railway Land Age Office, Liverpool Street Station, E
1097	A. 1884, Feb. 11 F. 1889, Jan. 28	Hope, William Elliott	7, East India Avenue, Leadenhall St.,
1644	1889, Dec. 9	Hopkins, Alfred James	37, Mortimer St. Cavendish Square,
2282	1891, Nov. 4	Hopkinson, Alfred, A.M.I.C.E.	15, Agar Street, Bury, Lancashire.
2010	1891, Mar. 14	Horne, Edmund	High Street, Hounslow, Middlesex.
794	1882, Apr. 24	*Horne, William Edgar ... ... *(Member of Council)*	85, Gresham Street, E.C., and Delahay Street, S.W.
1390	1887, May 9	Hornor, Charles Jared	32, Prince of Wales' Road, Norw Norfolk.
1391	1887, May 9	Hornor, Francis...	Queen Street, Norwich, Norfolk.
1826	1890, May 29	Horsey, Frederick John Terry	11, Billiter Square, E.C.
174	1869, Feb. 22	Horsfall, Richard ... ... *(Member of Council)*	22A, Commercial St., Halifax, Yorks
1761	1890, Mar. 10	Horsfall, Richard Edgar ...	22A, Commercial St., Halifax, Yorks
2283	1891, Nov. 4	Horsfield, J. Nixon	2, Penrhyn Road, Kingston-on-Tham
2812	1895, Sept. 2	Hosford, Edward Henry Poe	76, George Street, Limerick, Irelan
2284	1891, Nov. 4	Houghton, Frederick	68, Bishopsgate Street Within, E.C.
2285	1891, Nov. 4	Houghton, John Pounds	26, The Avenue, Kew, and Richmon
3505	1899, Oct. 30	*Houghton, Thomas Marcus ...	14, Sherborne Lane, E.C.
1940	1891, Jan. 17	Houghton, William	58, Old Broad Street, E.C.

‡ Special Forestry Certificate.

Date of Election and of Transfer.	FELLOWS.	Address.
1889, Feb. 25	Hovenden, Henry Edward	30, Bishopsgate Street Without, E.C.
1891, May 23	Howard, Harry	Town Offices, Littlehampton, Sussex.
1898, Feb. 18	Howatt, William	146, Buchanan Street, Glasgow.
A. 1869, Feb. 8 F. 1883, Mar. 12	Hubbersty, Henry Alfred	Buxton, Derbyshire.
1883, Apr. 30	Hudson, Arthur Byrne	17, Godliman Street, E.C.
1891, May 23	Hudson, Edw. Wm., A.R.I.B.A.	76, Fellows Rd. N.W., & Hove, Sussex.
1884, Mar. 10	Hudson, James	Penrith, Cumberland.
1889, Mar. 18	Hugman, Charles Eady	9, Craig's Court, Charing Cross, S.W.
1895, Sept. 2	Humphreys, Daniel Peard	80, South Mall, Cork, Ireland.
1881, Dec. 5	Humphreys, Henry	Woodhouse, Loughborough, Leicestershire.
1891, May 23	Humphreys, John Henry	Woodhouse, Loughborough, Leicestershire.
1891, May 23	Hunt, Frederick Cope	13, Victoria Street, Westminster, S.W.
1891, Nov. 4	Hunt, Fred. Wm. H., F.R.I.B.A.	30, York Place, Portman Square, W.
1874, May 11	Hunt, Henry Arthur	45, Parliament Street, S.W.
1869, Mar. 8	Hunt, Josiah	6, Queen Anne's Gate, S.W.
1891, May 23	Hunt, Thomas	Baldock Street, Ware, Herts.
1895, Sept. 2	Hunt, William Lewis	83, George Street, Limerick, Ireland.
1895, Sept. 2	Hunt, William Power	81, George Street, Limerick, Ireland.
1891, Jan. 17	Hunter, Cecil	Cricklewood, Middlesex.
1891, Nov. 4	Hurrell, John Weymouth	25, Brazennose Street, Manchester.
A. 1883, Dec. 17 F. 1891, Jan. 5	Huskinson, Thomas William	Epperstone Manor, Nottingham.
1874, Jan. 19	Huskinson, William Lambe	The Manor House, Epperstone, Notts.
1895, Sept. 2	Hussey, Maurice T. G.	Ufford Hall, Stamford, Lincolnshire.
A. 1884, May 19 F. 1889, Dec. 9	Hussey, Robert	Eastfields, near Lichfield, Staffordshire.
1895, Sept. 2	Hussey, Samuel Murray	18, Elvaston Place, S.W., and Edenburn, Gortalea, Co. Kerry.
1895, Sept. 2	Hutchins, Samuel Newburgh	Ardnagashel, Bantry, Co. Cork.
1880, Jan. 19	I'Anson, Edward Blakeway, F.R.I.B.A.	7A, Laurence Pountney Hill, E.C.
1884, Apr. 21	Inge, Charles Henry	Broom Leasoe, Whittington, Lichfield, Staffordshire.
. 1882, Dec. 18 . 1891, Aug. 4	Ingram, Henry Law	7, Whitehall Place, S.W.
. 1873, Feb. 10 . 1882, Jan. 16	Ingram, Walter Fielde	2, St. Andrew's Place, Lewes, and 17, Preston Street, Brighton, Sussex.
1882, Dec. 18	Inman, Marshall Nisbet	7, Bedford Row, W.C.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
2290	1891, Nov. 4	Inman, William Nutter	126, Maida Vale, W.
835	1882, Dec. 18	Innocent, Chas., J., F.R.I.B.A....	Sheffield, Yorkshire.
2291	1891, Nov. 4	Ireland, Edwin Benjamin ...	Guestwick, East Dereham, Norfolk.
2819	1895, Sept. 2	Irvine, Hy., Lieut.-Col.	Oatlands, Omagh, Co. Tyrone.
3191	1897, Oct. 26	*Isted, Samuel Eveland	Royal Engineer Office, North Cam Aldershot, Hants.
1942	1891, Jan. 17	Jackson, Benjamin Whitehead	7, Rawson Street, Halifax, Yorkshire.
570	1880, Feb. 16	Jackson, Charles	23, Brazennose Street, Manchester.
1943	1891, Jan. 17	Jackson, Samuel...	Tanfield Chambers, Bradford.
1404	1887, Dec. 19	Jackson, William Tress	117, High Street, Sittingbourne, Kent
2293	1891, Nov. 4	James, Christian Hugh	Rudchester, Wylam-on-Tyne, Northu berland.
2820	1895, Sept. 2	Jameson, Robt. William	Estates Office, Foynes, Co. Limerick.
2684	A. 1894, Oct. 30 F. 1899, June 26	*Jarmain, William	149, Seven Sisters Rd., Finsbury Pk.,
2527	A. 1892, Nov. 28 F. 1898, Oct. 3	*Jarman, Frank Wilmot	4, High Street, Croydon.
1302	1886, Jan. 25	Jeans, Mark...	Marlborough, Wilts.
2588	A. 1893, Oct. 4 F. 1895, Nov. 25	*Jeffree, Sydney	9, Southampton St.,Bloomsbury Sq., W
2967	A. 1895, Oct. 24 F. 1897, May 31	*Jenkin, Authur Pearse	Trewirgie, Redruth, Cornwall.
2294	1891, Nov. 4	Jenkins, Oswald	57, Colmore Row, Birmingham.
2589	A. 1893, Oct. 4 F. 1895, Nov. 25	*Jenkinson, John	1, Princes Street, Westminster, S.W
3160	A. 1897, Feb. 17 F. 1899, Mar. 20	*Jenkinson, William Eric Leigh	6, Moorgate Street, E.C.
736	1882, Feb. 13	Jenkinson, William Wilberforce	6, Moorgate Street E.C.
3048	A. 1896, June 2 F. 1900, June 27	*Jennings, Fitz-Laurence, Percival Dudley	Old Post Office Chambers, Bournemo Hants.
2685	A. 1894, Oct. 30 F. 1897, Nov. 8	*Jenner, William...	1, Western Road, Hove, Brighton, Sus
2012	1891, Mar. 14	Jennings, William Joseph ...	4, St. Margaret's St. Canterbury, K
3062	1896, Oct. 28	Jerome, Thomas Stroud	Mandora, Effingham Road, Surbi Surrey, and Horse Guards, White S.W.
992	1883, Dec. 17	Jeudwine, William Wynne ...	Chesterfield, Derbyshire.
2529	A. 1892, Nov. 28 F. 1896, Nov. 23	*Johnson, Bernard Marr	9, Whitehall Place, S.W.
963	A. 1883, May 25 F. 1885, Jan. 26	*Johnson, Henry	35, Coleman Street, E.C.
2821	1895, Sept. 2	Johnson, Jocelyn Otway	Kilganon, Enniskerry, Co. Clare.
1420	A. 1887, Dec. 19 F. 1894, May 28	*Johnston, Walter Henry... ...	County Offices, Auditors' Depart Preston, Lancashire

Date of Election and of Transfer.	FELLOWS.	Address.
1899, Feb. 16	Johnstone, James	Alloway Cottage, Ayr, Ayrshire.
1895, Sept. 2	Johnstone, John Brett	Ballycastle, Co. Antrim.
1891, Nov. 4	Jolly, John Hawkins	1, Dalton Terrace, The Mount, York.
A. 1888, Feb. 20 F. 1891, May 25	*Jonas, Harry Marshall	27, Market Place, Cambridge.
A. 1869, Apr. 5 F. 1878, Feb. 25	Jonas, Henry	23, Pall Mall, S.W.
1885, Apr. 20	Jones, Charles, M.I.C.E.	The Lodge, Culmington Road, Ealing, W.
1882, Mar. 13	Jones, Charles Frederick	Eldon Chambers, 30, Fleet Street, E.C.
A. 1894, Oct. 30 F. 1900, Oct. 1	*Jones, David Pugh	Tymaur Road, Llandaff, Glamorganshire.
A. 1896, Oct. 28 F. 1898, Dec. 12	*Jones, Ernest Joel	53, Maida Vale, W.
1890, Jan. 27	Jones, Francis William	2, Frewin Court, Corn Market St., Oxford.
A. 1883, May 25 F. 1886, Nov. 8	*†Jones, Henry Arthur	49, Bedford Street, Strand, W.C.
1890, Nov. 22	Jones, Isaac M., A.M.I.C.E.	The Town Hall, Chester.
A. 1881, Dec. 19 F. 1891, May 25	Jones, Thomas	1, Princes Street, Westminster, S.W.
1887, Jan. 10	Jones, Walter Butler Clough	Mynydd, Ednyfed, Criccieth, North Wales.
1891, Mar. 14	Jones, William Edward	Anglesey Estate Office, Craig, Llanfair, P.G., Anglesey.
1891, Nov. 4	Jopling, Joseph	Wallington, Surrey.
1891, Nov. 4	Joseland, Charles	Bank Buildings, Kidderminster, Worcestershire.
1888, Mar. 5	Joseph, Delissa, F.R.I.B.A.	17 and 18, Basinghall Street, E.C.
1884, Feb. 25	Joyce, John Hall	Blackfordby, near Burton-on-Trent, Staffordshire.
A. 1875, Dec. 13 F. 1887, Mar. 21	Kaye, John Edward	Bretton Lodge, Wakefield, Yorkshire.
1896, Jan. 21	Keane, Marcus	Beech Park, Ennis, Co. Clare.
1884, May 26	Kedgley, Charles	Hibernia Chambers, London Bridge, S.E.
1901, Feb. 21	*Kelly, John George	West View, Pontefract, Yorkshire.
1880, Nov. 8	Keirle, Robert, F.R.I.B.A.	Suffolk House, Laurence Pountney Hill, E.C.
1895, Sept. 2	Kelly, Richard Henry	21, The Mall, Waterford.
A. 1890, Nov. 22 F. 1892, July 4	*Kemp-Smith, James Fred	Orsett, Essex.
1890, Feb. 10	Kennedy, James	25, Bedford Row, W.C.
1884, May 26	Kent, George Edward	"Normanhurst," Cavendish Road, Southsea, Hants.
189 , Nov. 4	Kenwrick, George	83, Colmore Row, Birmingham.
1891, Nov. 4	Kerl, William James	4, Old Jewry, E.C., & Beckenham, Kent.
A. 1897, Oct. 26 F. 1901, Apr. 29	*Kerr, John Murray	Summerfield Park, Llanidloes, Montgomeryshire.

† Special Sanitary Science Certificate.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
3332	1898, Oct. 29	*Kerruish, William Maltby	21, Athol Street, Douglas, Isle of Man
1614	1889, Apr. 1	Kersey, Alex. H., F.R.I.B.A.	21, Finsbury Pavement, E.C.
1850	1890, Nov. 22	Kidwell, John	St. Margaret's Bank, Rochester, Kent
2824	1895, Sept. 2	Kincaid, James Stewart *(Member of Council)*	7, Leinster Street, Dublin.
2825	1895, Sept. 2	Kincaid, Joseph Westby	7, Leinster Street, Dublin.
1225	A. 1884, Mar. 10 F. 1888, Dec. 10	*King, Alfred	12, Princes Street, Westminster, S.W.
873	1883, Jan. 29	King, Frank Hulme	Horsham, Sussex.
1192	1884, May 26	King, Henry	Stourbridge, Worcestershire.
2301	1891, Nov. 4	King, John Busby	Albert Park, Abingdon, Berks.
1193	1884, May 26	King, Thomas	Pembroke House, Portsmouth, Hants.
191	1869, Mar. 22	King, Sir William David, D.L.	Stratford Lodge, Southsea, Hants.
3105	A. 1896, Oct. 28 F. 1901, Feb. 11	*Kingsford, Percy Hamilton	24, High Street, Canterbury, Kent.
808	1882, May 8	Kingston, Samuel	Spalding, Lincoln.
1502	1888, Nov. 26	Kirby, Edmund, F.R.I.B.A.	5, Cook Street, Liverpool.
3021	A. 1896, Jan. 21 F. 1900, Nov. 26	*Kirk, John Wright	23, Palace Street, Westminster, S.W.
3298	1898, Feb. 18	Kirkwood, Charles	67, West Regent Street, Glasgow.
2303	1891, Nov. 4	Kittow, John	West Holm, Launceston, Cornwall.
2487	1892, Feb. 26	Knight, Edgar Walsh	48, South Street, Greenwich, S.E.
3063	1896, Oct. 28	Knight, Henry St. John	Royal Engineer Office, Wei-Hai-W China.
2826	1895, Sept. 2	Knight, Maurice Charles	The Grange, Ballymena, Co. Antr Ireland.
853	A. 1882, Dec. 18 F. 1889, Dec. 9	Knowles, Henry	Egerton House, The Spa, Gloucester.
2827	1895, Sept. 2	Knox, Albert Frederic	Estate Office, Ballina, Co. Mayo.
2830	1895, Sept. 2	Knox, Albert Henry	Estate Office, Ballina, Co. Mayo.
3178	1897, Oct. 27	Knox, Alexander	53, Bothwell Street, Glasgow.
2828	1895, Sept. 2	Knox, Edward Ernest	8, Milward Terrace, Bray, Ireland.
2829	1895, Sept. 2	Knox, Ernest Henry	Rahans, Ballina, Co. Mayo.
2831	1895, Sept. 2	Kough, Thomas	Estate Office, Kilkenny, Ireland.
2305	1891, Nov. 4	Lacey, John Turk	10, Buckingham Street, Strand, W.C
3467	1899, Feb. 16	Laing, David Taylor	20, Bridge Street, Glasgow.
2306	1891, Nov. 4	Laing, John	20, Bridge Street, Glasgow.
2971	A. 1895, Oct. 24 F. 1899, June 26	*Lake, Cuthbert Joseph	25, Bucklersbury, E.C.
2972	A. 1895, Oct. 24 F. 1896 Oct. 1	*Lakin-Smith, Ernest	Colmore House, 21, Waterloo Str Birmingham.
1553	A. 1889, Jan. 14 F. 1891, Dec 7	*Lambert, Godfrey Charles	10, Basinghall Street, E.C.
2307	1891, Nov. 4	Lammie, George	138, Hope Street, Glasgow.

ip. o.	Date of Election and of Transfer.	FELLOWS.	Address.
398	1887, Dec. 5	Lancaster, Charles Holland	Union Offices, Brougham Terrace, West Derby Road, Liverpool.
591	A. 1893, Oct. 4 F. 1899, Oct. 2	*Lancaster, John Roy	85, Gresham Street, E.C.
90	1891, May 23	Lane, Ernest Lacan	81, Old Christchurch Rd., Bournemouth, Hants.
88	1890, Jan. 6	Lang, Charles Augustus... ...	3, King Street, Cheapside, E.C.
396	A. 1898, Oct. 29 F. 1899, June 26	*Lang, Chas. Fredk. Dashwood	3, King Street, Cheapside, E.C.
762	1882, Feb. 27	Langridge, George .. .. (*Member of Council*)	The Broadway, Tunbridge Wells, Kent.
645	1889, Dec. 9	Larmuth, George Horatio ...	Wilton Chambers, 10, St. Ann's Square, Manchester.
015	1891, Mar. 14	Latter, Hugh Robinson	The Town Hall, Bromley, Kent.
145	1868, Nov. 9	Laurance, John	Shortacre, Peterborough, Northamptonshire.
717	1890, Feb. 10	Lawford, William Robinson ...	Underhill, Oswestry, Shropshire.
091	1891, May 23	Lawrance, Walter	13, Hart Street, Bloomsbury Sq., W.C.
944	1891, Jan. 17	Lawrence, Arthur	Great Marlow, Bucks.
019	A. 1883, Dec. 17 F. 1889, Nov. 11	Lawrence, William Robert ...	57 & 58, Chancery Lane, W.C.
970	A. 1891, Jan. 17 F. 1895, Mar. 4	*Leaning, Henry John	28, John Street, Bedford Row, W.C.
461	1888, Feb. 20	Leaning, John	28, John Street, Bedford Row, W.C.
690	A. 1894, Oct. 30 F. 1895, Nov. 25	*Leaning, William Arthur ...	30, Telford Avenue, Streatham Hill, S.W.
645	1894, Oct. 30	*Leather, George Herbert ...	Central Bank Chambers, Leeds, Yorkshire.
244	A. 1897, Oct. 25 F. 1900, Oct. 1	*Leather, William Beaumont ...	The Hollies, Leeds, Yorkshire.
60	A. 1868, July 6 F. 1882, May 8	Lee, Charles Williams	63, Lincoln's Inn Fields, W.C.
975	A. 1895, Oct. 24 F. 1900, Nov. 12	*Lee, Ernest Edward Arthur	29, Basinghall Street, E.C.
332	1874, Feb. 2	Lee, Frederick	6, Great College Street, S.W.
353	A. 1887, Jan. 10 F. 1893, Nov. 13	*Lee, John Wilfrid	Town Hall, Haverstock Hill, N.W.
610	1889, Mar. 18	Lee, Philip Shirling	35, Craven Street, W.C., and Oaklands, Woodford, Essex.
092	1891, May 23	Lee, Sydney Williams, F.R.I.B.A.	63, Lincoln's Inn Fields, W.C.
090	1884, Feb. 11	Lee, William	143½, High Street, Guildford, Surrey.
927	1895, Oct. 24	*Leeder, Ernest Holtham ...	46, Waterloo Street, Swansea, Glamorganshire.
016	1891, Mar. 14	Legard, Digby Charles	Highington Hall, Lincoln.
836	1882, Dec. 18	Lemon, James, M.I.C.E., F.R.I.B.A.	Southampton, Hants.
717	1882, Jan. 30	Lepper, John Harrage	10, Market Square, Bromley, Kent.
332	1895, Sept. 2	L'Estrange, Christopher Arthur...	Estates Office, Sligo, Ireland.

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298	A. 1873. Jan. 27 F. 1882. April 21	LERMIT, ALFRED WILLIAM... ...	Singapore, Straits Settlement.
1945	1891, Jan. 17	LETTS, THOMAS HOLLINS	185, Earl's Court Road, S.W.
647	1881, Dec. 19	LIGHTFOOT, FRANCIS LOWRY, B.A. (*Oxon.*)	53, Parliament Street, S.W.
901	1883, Feb. 26	LIGHTFOOT, HENRY LE BLANC, M.A. (*Oxon.*)	Corpus Christi College, Oxford.
1646	1889, Dec. 9	LINAKER, CHARLES EDWARD ...	Frodsham, Cheshire.
1405	1887, Dec. 19	LISTER-KAYE, CHARLES WILKINSON	Osberton, Worksop, Notts.
2310	1891, Nov. 4	LITTLE, WILLIAM	Hutton Hall, Penrith, Cumberland.
949	A. 1883. May 21 F. 1888. Apr. 1	LITTLE, WILLIAM DAVIS	Middleton Stoney, Bicester, Oxon.
2311	1891, Nov. 4	LITTLEWOOD, LIONEL	26, Great James St., Bedford Row, W.C
2093	1891, May 23	LLEWELLIN, DAVID MORGAN ...	Glanwern Offices, Pontypool.
2834	1895, Sept. 2	LLOYD, AVERELL	Benburd, Moy, Co. Tyrone.
2488	1892. Feb. 26	LLOYD, GEORGE HAMILTON, A.M.I.C.E.	Care of T. Scrivener, Esq., Unite African Lands, 20, Bucklersbury, E.C
648	1881, Dec. 19	LOCK, WILLIAM HENRY	Instow, North Devon.
3468	1899. Feb. 16	LOCKHART, PETER	Estate Office, Edenhall, Langwathb Cumberland, and Blackwood Hous Ecclefechan, Dumfriesshire.
2313	1891, Nov. 4	LOFTHOUSE, ROGER	62, Albert Road, Middlesbrough-on-Tee
393	1875, Mar. 15	LOFTS, HENRY	130, Mount St., Grosvenor Square, W.
1164	A. 1884, May 5 F. 1891, June 29	LOFTS, HENRY FAIRLAM	130, Mount St., Grosvenor Square, W.
3469	1899, Feb. 16	LOGAN, JAMES	Coltness, Wishaw, Lanarkshire.
3565	A. 1899, Oct. 30 F. 1900, Nov. 12	*LOMAS, ALBERT DANIEL	Estate Department, Lancashire and Yorkshire Railway, Manchester.
2462	A. 1891. Nov. 1 F. 1895, July 8	*LONGSDON, ERNEST MOREWOOD ...	Town Hall, Bakewell.
1138	1884, Apr. 21	LOOKER, JOHN	High Street, Huntingdon.
2314	1891, Nov. 4	LORING, JOHN	The Cottage, Doddington, Nantwic Cheshire.
1396	1887, Nov. 14	LOVEGROVE, HENRY, A.R.I.B.A....	Eboracum, Herne Hill, S.E., and 1 High Street, Shoreditch, E.
1814	1890. May 29	LOVEYS, ARTHUR CLAMPITT ...	Moretonhampstead, Devon.
1126	A. 1881, Mar. 10 F. 1891, Feb. 16	LOW, ROBERT JOHN	49, Finsbury Pavement, E.C., & Albans, Hertfordshire.
738	1882, Feb. 13	LOWE, CHARLES HARLOWE	Hampstead Vestry Hall, Haverst Hill, N.W.
2532	A. 1892, Nov. 28 F. 1897, June 28	*LUCAS, JOHN ARCHIBALD	Guildhall Chambers, High Street, Exet Devonshire.
1648	1889, Dec. 9	LUCAS, WILLIAM EDWARD	Bexley, Kent.
1742	1890. Feb. 24	LUDLOW, WALTER ROBERT	Dorridge, Knowle, Warwick, and New Street, Birmingham.
3567	A. 1899. Oct. 30 F. 1900, June 27	*LUKER, DYNELEY	19, Waldeck Road, Ealing, W.
2095	1891, May 23	LYNAM, CHARLES, F.R.I.B.A. ...	Stoke-on-Trent, Staffordshire.

ip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
308	1898, Feb. 18	LYONS, FRANCIS OLIVER	102, St. Stephen's Green, Dublin.
743	1890, Feb. 24	LYWOOD, EDWIN	Norman Court, Clatford, Andover, Hants.
315	1891, Nov. 4	MACCALLUM, ALEXANDER DUNCAN	12, St. Vincent Place, Glasgow.
470	1899, Feb. 16	MCCALLUM, JAMES	Town Hall, Motherwell, Lanarkshire.
93	A. 1894, Oct. 30 F. 1895, Sept. 23	*MCCARTHY, HENRY ROBERT ...	67, Crouch Hill, N.
34	1900, Nov. 12	MCCAW, GEORGE TYRRELL, B.A., (*Dublin*)	6, Ely Place, Dublin, Ireland.
32	1896, June 2	M'CLINTOCK, ARTHUR	Downshire Office, Hillsborough, Co. Down.
36	1895, Sept. 2	MCCLINTOCK, CHARLES EDWARD LIEUT-COL.	Glendaragh, Crumlin, Co. Antrim.
22	1891, Nov. 4	MCCRACKEN, WILLIAM	Englesea House, Crewe.
37	1895, Sept. 2	MCCULLAGH, JAMES W.	Glasslough, Co. Monaghan.
64	1896, Oct. 28	MCDERMOTT, N. BERNARD, C.E.	Turret Lodge, 100, Cavendish Road, Clapham Park, S.W.
38	1895, Sept. 2	MCDONALD, ALLAN, M.A., (*Dublin*)	Glenarm, Co. Antrim.
71	1899, Feb. 16	MACDONALD, RANALD	Clung Castle, Aberdeen.
72	1899, Feb. 16	MACDONALD, RANALD RODERICK	16, Union Terrace, Aberdeen.
96	1891, May 23	MACDOUGALL, ROBERT	138, West Regent Street, Glasgow.
23	1891, Nov. 4	MCINTYRE, PETER	Gwydyr Ucha, Llanrwst, North Wales.
15	1889, Apr. 1	MACIVER, COLIN	23, Bold Street, Warrington, Lancashire.
73	1899, Feb. 16	MACKAY, WILLIAM	Freswick Estates Office, Thurso, Caithness-shire.
74	1899, Feb. 16	MACKENZIE, DONALD FALCONER	Estate Office, Mortonhall, Liberton, Midlothian.
22	1889, Apr. 29	MCLEAN, DONALD	Dunrobin Estate Office, Golspie, Sutherlandshire.
75	1899, Feb. 16	MACLENNAN, WILLIAM	Grainbank, Kirkwall, Orkney Islands.
28	1895, Oct. 24	*MACNICOLL, DOUGLAS HENRY ...	Derwas, Abergele, Denbighshire.
76	1899, Feb. 16	MACPHERSON, WILLIAM	Montrose Estates Office, Cattar House, Drymen, Stirlingshire.
93	A. 1893, Oct. 4 F. 1896, Oct. 1	MADDOX, HARRY EDWARD	Cottesmore, Gainsborough Gardens, Hampstead Heath, N. W.
17	1891, Nov. 4	‡MADGE, JOHN	Somerset House, Chard, Somersetshire.
12	1896, Jan. 21	MAHON, GEORGE GILBERT	The Rent Office, Ahascragh, Co. Galway.
9	1897, Oct. 26	MAKINS, WILLIAM ALEXANDER ...	79, West Regent Street, Glasgow.
18	1891, Nov. 4	MALLETT, WILLIAM ROBERT ...	8, Bream's Buildings, Chancery Lane, E.C.
31	1889, Jan. 25	MANN, CHARLES JOHN	29, Great George Street, S.W.
19	1891, Nov. 4	MANN, JABEZ, A.M.I.C.E.	Sevenoaks, Kent.
34	1890, Apr. 14	MANN, JAMES BAGSHAW	12, Lower Grosvenor Place, S.W.

‡ Special Forestry Certificate.

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1554	A. 1889, Jan. 14 F. 1893, Feb. 6	*MANN, ROBERT BAGSHAW	29, Great George Street, S.W.
1946	1891, Jan. 17	MANNERS, HENRY ALFRED	Buckminster Park, near Grantham, Lincolnshire.
1616	1889, Apr. 1	MARGERESON, CHARLES FREDERIC	New Square, Chesterfield, Derbyshire.
1362	1887, Jan. 24	MARGETTS, JOHN WILLIAM... ...	12, High Street, Warwick.
1947	1891, Jan. 17	MARKS, HYMAN	19, Ludgate Hill, E.C.
2839	1895, Sept. 2	MARMION, THOMAS HENRY ...	Estates Office, Cappoquin, Co. Waterford
192	1869, Mar. 22	MARR, JAMES	8, Adam Street, Adelphi, W.C.
3639	1900, Nov. 12	*MARRIOTT, ARTHUR SUTCLIFFE	West Park Street, Dewsbury, Yorkshir
470	A. 1877, Jan. 15 F. 1889, Dec. 9	MARRIOTT, GEORGE WHARTON ...	35, Egerton Crescent, S.W.
3162	A. 1897, Feb. 17 F. 1899, July 13	*MARSHALL, ARTHUR GEORGE ...	The Members' Mansions, 36, Victoria St S.W.
626	A. 1881, Nov. 14 F. 1884, Nov. 10	MARSHALL, LIONEL HASLER ...	Chippenham, Wilts.
1785	1890, Apr. 14	MARSHALL, PETER	3, Hartshead, Sheffield, Yorkshire.
2631	A. 1894, Feb. 23 F. 1897, Oct. 4	*MARTIN, ALFRED JOHN	Rhodesia House, Orange St., Capetow
976	1883, Nov. 12	MARTIN, GEORGE DENNIS	3, Pall Mall East, S.W.
434	1876, Mar. 20	MARTIN, GILSON	Chatsworth, Chesterfield, Derbyshire.
1555	A. 1889, Jan. 14 F. 1896, Jan. 6	*MARTIN, HEBER GAMBLING ...	Littleport, Isle of Ely, Cambridgeshir
364	1875, Jan. 4	MARTIN, HOWARD ... ... (*Member of Council*)	27, Chancery Lane, W.C., and Elstre Nutfield, Surrey.
1649	1889, Dec. 9	MARTIN, ROBERT FREWEN... ...	Mountsorrel, Loughborough, Leicest shire.
2595	A. 1893, Oct. 4 F. 1898, Mar. 21	*MARTIN, SAMUEL	27, Chancery Lane, W.C.
1533	A. 1888, Dec. 10 F. 1892, July 4	*‡MARTIN, THOMAS	Hampden House, N.W.
1589	1889, Feb. 25	MARVIN, ALBERT EDWARD ...	Marl Hill, Carisbrooke, Isle of Wight
3478	1899, Feb. 16	MARWICK, THOMAS PURVES ...	43, York Place, Edinburgh.
1598	1889, Mar. 4	MASON, CHARLES	Westgate, Louth, Lincolnshire.
1091	1884, Feb. 11	MASON, WILLIAM ARTHUR... ...	31A, Colmore Row, Birmingham.
1288	A. 1885, Dec. 7 F. 1888, Nov. 12	*MASSIE, FRANK, A.M.I.C.E. ...	Tetley House, Kirkgate, Wakefie Yorkshire.
696	1882, Jan. 16	MASTERMAN, GEORGE HUGHES ...	35, Coleman Street, E.C.
994	1883, Dec. 17	MATHEWS, GEORGE SPENCER, M.A. (*Cantab.*) (*Member of Council*)	15, Waterloo Street, Birmingham.
995	1883, Dec. 17	MATHEWS, JOSEPH DOUGLAS, F.R.I.B.A.	11, Dowgate Hill, E.C.
2596	A. 1893, Oct. 4 F. 1896, Apr. 13	*MATHEWS, LEWIS OSLER, M.A. (*Cantab.*)	15, Waterloo Street, Birmingham.
39	1868, June 15	MATHEWS, WILLIAM	31, Broadwater Down, Tunbridge W Kent.
3570	A. 1899, Oct. 30 F. 1900, Oct. 1	*MATTHEWS, DOUGLAS SAMUEL ...	650, Fulham Road, S.W.
2840	1895, Sept. 2	MAUDE, ANTHONY FRITZ	Drumadreary, Irvinestown, Fermanagh.

‡ Special Forestry Certificate.

ip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
812	1895, Sept. 2	Maude, Christopher Hugh ...	Lenaghan, Enniskillen, Co. Fermanagh.
813	1895, Sept. 2	Maunsell, Richard Edward ...	9, Ely Place, Dublin.
356	A. 1887, Jan. 10 F. 1890, Jan. 6	*Maxwell, Francis William ...	41, Corporation Street, Manchester.
814	1895, Sept. 2	Maxwell, Henry Perceval ...	Lansdowne Lodge, Kenmare, Co. Kerry.
333	1898, Oct. 29	*Maxwell, Joseph Archibald...	36, Oxford Road, Banbury, Oxon.
188	1897, Oct. 26	May, Francis John Charles...	Town Hall, Brighton, Sussex.
320	1891, Nov. 4	May, Thomas Henry	Haslin House, Harpur Hill, Buxton, Derbyshire.
948	1891, Jan. 17	Meade, Thomas de Courcy, M.I.C.E.	The Town Hall, Manchester.
534	A. 1892, Nov. 28 F. 1893, Aug. 9	*Mellenfield, James Henry ...	517, Hackney Road, N.E.
098	1891 May 23	Meller, William Galloway ...	22, Cooper Street, Manchester.
552	1879, Dec. 8	Mellersh, Alfred William ...	Godalming, Surrey.
949	1891, Jan. 17	Mellor, Thomas Henry	1, Laurence Pountney Hill, E.C.
379	1887, Mar. 7	Menzies, William	Golspie, Englefield Green, Surrey.
696	A. 1894, Oct. 30 F. 1897, June 28	*Mercer, Charles Edward ...	Estate Office, S.E. Railway, Tooley St., London Bridge Station, S.E.
972	A. 1891, Jan. 17 F. 1894, Dec. 10	*Merry, Arthur Walker ...	17, High Street, Leighton Buzzard.
099	1891, May 23	Merry, Thomas	2, Guildhall Road, Northampton.
546	1894, Oct. 30	*Messenger, Henry	77, Chancery Lane, W.C.
764	1882, Feb. 27	Messenger, William Harry ...	Town Hall Chambers, Guildford, Surrey.
223	1884, Dec. 8	*‡Michelmore, Alfred	Berry Pomeroy Estate Office, Totnes, Devon.
493	1888, Nov. 12	Middleton, Reginald Empson...	17, Victoria Street, S.W.
325	1891, Nov. 4	Migotti, Alphonzo, A.R.I.B.A.	4, St. George's Mansions, Red Lion Square, W.C.
597	1882, Jan. 16	Millar, Charles William ...	46, Pall Mall, S.W.
326	1891, Nov. 4	Millar, William Galt	Friar Street, Reading, Berks.
327	1891, Nov. 4	Millard, Edward	47, Finsbury Circus, E.C.
070	1896, Oct. 28	*Miller, John Ezra, A.M.I.C.E.	12, Belle Vue Road, Sunderland.
177	1884, May 19	Mills, Samuel Mealing	Orford Hill, Norwich, Norfolk.
305	1886, Feb. 22	Mills, William Edward	49, Hamilton Square, Birkenhead, Cheshire
328	1891, Nov. 4	Millyard, John William ...	Estate Office, Saltmarshe Castle, Bromyard, Herefordshire.
463	A. 1891, Nov. 4 F. 1892, Oct. 12	*Mitchell, George Sharman ...	Upper Adhurst, Petersfield, Hants.
232	A. 1884, Dec. 8 F. 1890, Nov. 10	*Mixer, Edward	44, Charing Cross, S.W.
718	1890, Feb. 10	Monckton, Henry Percival, F.R.I.B.A.	32, Walbrook, E.C.
330	1891, Nov. 4	Monier-Williams, Stanley Faithfull, A.R.I.B.A.	Broadway House, The Broadway, Walham Green, S.W.
051	1891, Jan. 17	Montagu, Henry Havelock ...	36, Coleman Street, E.C.
771	1890, Mar. 24	Moody, Thomas	30, Cockspur Street, S.W.

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1576	1889, Feb. 11	Moore, Alfred	144, Mile End Road, E., and 7, Leadenhall Street, E.C.
1165	A. 1884, May 5 F. 1888, May 11	*Moore, Harold Edward	41, Bedford Row, W.C.
2331	1891, Nov. 4	Morgan, Benjamin Brauford	6, Bank Street, Norwich, Norfolk.
1772	1890, Mar. 24	Morris, Charles	The Lodge, Radcliffe-on-Trent, Notts, & 27, Bridlesmith Gate, Nottingham.
1443	1888, Jan. 23	Morris, Edward Henry	Chirbury, Salop.
2101	1891, May 23	Morris, George Field	67 and 68, Cheapside, E.C.
2332	1891, Nov. 4	Morris, Harold George	67 and 68, Cheapside, E.C.
1119	1884, Mar. 10	Morris, Herbert	Lewes, Sussex.
2538	A. 1892, Nov. 28 F. 1894, Oct. 10	*Morris, Richard Percival	10, Albert Mansions, Crouch Hill, N.
2699	A. 1894, Oct. 30 F. 1899, Oct. 2	*Morris, William Henry	West House, Chirbury, Shropshire.
1127	A. 1884, Mar. 10 F. 1891, Jan. 5	Moss, Thomas Walter	7, Gray's Inn Place, Gray's Inn, W.C.
1895	A. 1890, Nov. 22 F. 1893, Apr. 10	*Mould, Graham Harley	25, Great James St., Bedford Row, W.C
3065	1896, Oct. 28	Moxon, Herbert William	Building Works Department, Roya Arsenal, Woolwich, S.E.
985	A. 1883, May 25 F. 1891, Oct. 15	Moyes, John Helenus	66, St. Andrew's Street, Cambridge.
2145	A. 1891, May 23 F. 1892, May 30	*Müller, John Joseph, A.R.I.B.A.	19, Bedford Road, Crouch End, N.
2017	1891, Mar. 11	Mundy, Herbert	Manvers Street, Trowbridge, Wilts.
2334	1891, Nov. 4	Mundy, Thomas Edward, A.R.I.B.A.	12, Buckingham Street, Adelphi, W.C.
2335	1891, Nov. 4	Munro, Daniel	39, Hope Street, Glasgow.
765	1882, Feb. 27	Munro, Philip	2, St. Stephen's Chambers, New Baldw Street, Bristol.
3325	1898, Oct. 29	Murdock, Robert	91, Maxwell Road, Glasgow.
2815	1895, Sept. 2	Murphy, James Fraser, Major	Estate Office, Boyle, Co. Roscommon.
1406	1887, Dec. 19	Murray, Gilbert	Orchardlee, Girvan, Ayrshire.
3479	1899, Feb. 16	Murray, John Campbell	Pollock Estate Office, 53, Bothwell S Glasgow.
3480	1899, Feb. 16	Murray, Joseph	Camperdown Estates Office, Dryburg Lochee, Forfarshire.
1952	1891, Jan. 17	Murray, William	School Board Offices, Victoria Emba ment, W.C.
3481	1899, Feb. 16	Murray, William Watson	Catter House, Drymen, Stirlingshire.
809	1882, May 8	Mynors, Walter Charles Towers	Little Ingestre, Stafford.
336	1891, Nov. 4	Myres, John James, A.M.I.C.E.	15, Chapel Street, Preston, Lancashir

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
591	1889, Feb. 25	NAPIER, HENRY BURROUGHES ...	Ashton Court Estate Office, Long Ashton, Clifton, Bristol.
164	A. 1869, Jan. 25 F. 1882, Mar. 13	NASH, ALFRED JAMES	Farnham, Surrey.
018	1891, Mar. 14	NEALE, GEORGE JAMES	13, Lowndes Street, Belgravia, S.W.
531	1879, Feb. 3	NEAME, FREDERICK	Macknade, Faversham, Kent.
795	1882, Apr. 24	NEATE, ARTHUR WEBB	Albion House, Newbury, Berks, and Hungerford.
407	A. 1898, Oct. 29 F. 1900, Feb. 12	*NESBITT, JOHN OSCAR	6, Limefield Terrace, Levenshulme, Manchester.
337	1891, Nov. 4	NEVETT, FRANCIS WALTER	34, Brackenbury Road, Preston, Lancashire.
650	1889, Dec. 9	NEVETT, THOMAS	41, Fishergate, Preston, Lancashire.
102	1891, May 23	NEW, EDW. VORLEY, A.R.I.B.A.	62, George Street, Portman Square, W.
719	1890, Feb. 10	NEWILL, ROBERT HENRY	Lydbury North, Shropshire.
276	1885, Dec. 7	NEWMAN, ARTHUR HARRISON, F.R.I.B.A.	19A, Tooley St., London Bridge, S.E.
856	A. 1882, Dec. 18 F. 1889, Nov. 11	NEWMAN, CHARLES HENRY ...	34, Savile Row, W.
289	1872, Dec. 9	NEWMAN, FRANCIS	Ryde, Isle of Wight.
540	A. 1892, Nov. 28 F. 1894, Oct. 10	*NEWMAN SAMUEL FRANK	33 and 34, Savile Row, W.
338	1891, Nov. 4	NEWMAN, THOMAS HARRY	Rayne, Essex.
566	A. 1880, Jan. 19 F. 1886, Apr. 12	NEWMARCH, HENRY CHARLES ...	61, Lincoln's Inn Fields, W.C.
846	1895, Sept. 2	NEWPORT, GEORGE BELLINGHAM	Rockview, Inistioge, Co. Kilkenny.
739	1882, Feb. 13	NEWSON, HARRY CARSS	57, Lincoln's Inn Fields, W.C.
112	A. 1896, Oct. 28 F. 1899, Mar. 20	*NEWTON, EDWIN BENNETT BRIERLEY, A.M.I.C.E.	Town Hall, Paddington, W.
020	A. 1883, Dec. 17 F. 1889, Nov. 11	NEWTON THOMAS EDWIN	Bank Chambers, Winchester, Hants.
340	1891, Nov. 4	NICHOLSON, WILLIAM ABERNETHY	105, Cheapside, E.C.
318	1898, Feb. 18	NISBET, JOHN...	Royal Societies Club, 63, St. James' Street, S.W.
490	1892, Feb. 26	NOCK, BENJAMIN BOWEN	48, Queen Street, Wolverhampton, Staffordshire.
074	A. 1891, Jan. 17 F. 1901, Apr. 29	*NOCKOLDS, ALFRED GEORGE ...	Saffron Walden, Essex.
101	1875, Apr. 26	NOCKOLDS, MARTIN	Saffron Walden, Essex.
264	1885, Mar. 23	NOEL, BYRON BRUCE	Ockham, Ripley, Surrey.
435	1876, Mar. 20	NORMAN, JAMES MAURICE	Uxbridge, Middlesex.
63	A. 1894, Feb. 23 F. 1900, May 21	*NORMAN, JAMES NOEL	Palace Chambers, Westminster, S.W.
20	1890, Feb. 10	NORMAN, WILLIAM HORACE ...	34, Great George Street, S.W.
85	1868, July 20	NORTH, GEORGE	Palace Chambers, 9, Bridge Street, S.W.
58	1883, May 25	*NORTH, GEORGE FREDERIC... ...	Strathfield Saye, Mortimer, Berks.
69	1889, Jan. 28	NORTHCROFT, HENRY	8, St. Martin's Place, Charing Cross, W.C.
19	1891, Mar. 14	NORTON, THOMAS HERBERT, B.A. (*Oxon.*)	7, Whitehall Place, S.W.
55	1871, Feb. 13	NOTLEY, RICHARD ALBERT... ...	80, Cornhill, E.C.

Dip No.	Date of Election and of Transfer.	FELLOWS.	Address.
698	1882, Jan. 16	NOTLEY, ROBERT PLEDGE, F.R.I.B.A.	35, Bucklersbury, E.C.
676	A. 1881, Dec. 19 F. 1887, Feb. 7	NOTTAGE, WILLIAM GRIGGS ...	Land Registry (Survey Department), 4, Clement's Inn, W.C.
2847	1895, Sept. 2	NUNN, WILLIAM BOLTON	George Street, Wexford, & Castlebridge.
2978	A. 1895, Oct. 24 F. 1898, May 2	*NUTTALL, HERBERT	20, Market Street, Bury, Lancashire.
2465	A. 1891, Nov. 4 F. 1894, Oct. 10	*OAKLEY, CHRISTOPHER PERCIVAL	10, Waterloo Place, S.W.
2020	1891, Mar. 14	OAKLEY, EDWARD BENJAMIN ...	Westville, Parkstone, Dorset.
1975	A. 1891, Jan. 17 F. 1892, Dec. 5	*OAKLEY, JOHN HUBERT	10, Waterloo Place, S.W.
3577	A. 1899, Oct. 30 F. 1901, Apr. 29	*O'BRIEN, DONOUGH RICHARD ...	16, Upper Mallow Street, Limerick Ireland.
1976	A. 1891, Jan. 17 F. 1894, Jan. 22	*OGDEN, MICHAEL GUY	80, Coleman Street, E.C., and 4, High Street, Wimbledon, S.W.
3249	A. 1897, Oct. 26 F. 1899, Oct. 2	*OGILVIE, ROBERT MATHEWSON	10, Boltro Rd., Hayward's Heath, Sussex
1468	1888, Mar. 5	OLDROYD, LINLEY...	5, Oxford Place, Leeds, Yorkshire.
2341	1891, Nov. 4	OLIPHANT, GEORGE A. J.	Thruxton, Andover, Hants.
2342	1891, Nov. 4	OLIVER, CHARLES EDWARD ...	Selby Lodge, Consett, Co. Durham.
1306	1886, Feb. 22	ORGILL, JOHN BERWICK	21, Hart St., Bloomsbury Square, W.C.
2343	1891, Nov. 4	ORR, CECIL, A.R.I.B.A.	Enniskerry, Co. Wicklow.
2849	1895, Sept. 2	OSBORNE, CHARLES W.	Rosnaree, Slane, Co. Meath.
3051	A. 1896, June 2 F. 1899, June 26	*OSENTON, CHARLES	Leatherhead, Surrey.
1896	A. 1890, Nov. 22 F. 1892, Nov. 14	*OSENTON, GEORGE, JUN.	Oxted, Surrey.
1851	1890, Nov. 22	OSMOND, EDWARD	Oakford, Upton Pyne, Devon.
2850	1895, Sept. 2	OWEN, ARTHUR JOHN	Shanvaghey, Ballacolla, Queen's Count
1721	1890, Feb. 10	OWEN, HENRY	Dana Chambers, Shrewsbury, Shropshir
2344	1891, Nov. 4	OWEN, RICHARD NEWSHAM ...	Haughton, Tarporley.
1098	A. 1884, Feb. 11 F. 1890, Jan. 6	OWEN, THOMAS HENRY RULE ...	High St., Haverfordwest, Pembrokeshi
183	1869, Mar. 8	OWEN, THOMAS RULE	High St., Haverfordwest, Pembrokeshi
1628	1889, Nov. 11	OWEN, WILLIAM SCOTT	Cefngwifed, near Newtown, Montgomer shire.
2021	1891, Mar. 14	PAGE, GEORGE FREDERICK... ...	Eagle Chambers, Kingston-on-Thames.
1042	1884, Jan. 14	PAGE, ROBERT, F.R.I.B.A.	9, Denman Street, London Bridge, S.E
2702	A. 1894, Oct. 30 F. 1898, Jan. 24	*†PAGE, STANLEY HATCH	6, Queen Street, Ramsgate, Kent.
406	A. 1875, Nov. 8 F. 1881, Apr. 4	PAIN, COARD SQUAREY...	14, North John Street, Liverpool.

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† Special Sanitary Science Certificate.

Date of Election and of Transfer.	FELLOWS.	Address.
A. 1893 Oct. 4 F. 1897, June 28	*PAIN, GEORGE LLOYD	35, Bedford Street, Woburn, Beds.
A. 1883, May 25 F. 1894, Oct. 10	*PAIN, JAMES	48, West Street, Fareham, Hants.
1891, Nov. 4	PAIN, WILLIAM, F.R.I.B.A.	63, Lincoln's Inn Fields, W.C.
A. 1888, Dec. 10 F. 1892, Oct. 12	*‡PALAMOUTAIN, JOSEPH WM. ...	Cloverley Estate Office, Whitchurch, Salop.
A. 1892, Feb. 26 F. 1901, July 2	*PALMER, WILLIAM EDWARD KING, A.R.I.B.A.	Huntingdon Lodge, New Malden, Surrey.
1890, May 29	PARK, PHILIP SAMUEL...	The Oaks, Penwortham, Preston, Lancs.
1886, May 3	PARK, WILLIAM PHILIP	18, Winckley Street, Preston, Lancs.
1887, Mar. 21	PARKER, CHARLES ALFRED... ...	21, Finsbury Circus, E.C., and Woodham Mortimer Place, Maldon, Essex.
1885, May 18	PARKER, JOHN, A.M.I.C.E.	Mansion House, Hereford.
1891, Nov. 4	PARKER, STANLEY...	427, Edgware Road, W.
A. 1880, Jan. 19 F. 1888, Jan. 9	PARKER, THE HON. CECIL THOMAS	Eccleston, Chester.
1890, Nov. 22	PARKER, WILLIAM HENRY	3, Foregate Street, Worcester.
1890, Nov. 22	PARKIN, WILLIAM...	Babworth, Retford, Notts.
1883, Jan. 15	PARMETER, FRANK	Middle Lees, Clitheroe, Lancashire.
1891, May 23	PARNACOTT, ALFRED	93, York Road, Westminster Bridge Road, S.E., & The Ferns, Laurel Grove, Penge, S.E.
1883, Mar. 12	PARR, SAMUEL	New Broad Street House, E.C.
1891, Mar. 14	PARR, SAMUEL GEORGE	New Broad Street House, E.C.
A. 1889, Dec. 9 F. 1893, Nov. 13	*PARRIS, CHARLES JOHN	65, High Street, Tunbridge Wells, Kent, and Beechwood, Crowborough, Sussex.
A. 1887, Dec. 19 F. 1891, Mar. 16	*PARRY, RICHARD, A.M.I.C.E. ...	82, Victoria Street, S.W.
A. 1894, Oct. 30 F. 1900, Oct. 1	*PARRY, RICHARD FREDERICK ...	Bishop's Waltham, Hants.
1888, Nov. 26	PARSONS, FRANK DONISTHORPE...	Misterton, Crewkerne, Somerset.
1890, Nov. 22	PARSONS, FREDERICK CECIL ...	163, North Street, & 9, Marine Parade, Brighton.
1890, Mar. 10	PARSONS, HENRY JOHN DONNE ...	21, Southernhaye West, Exeter.
A. 1883, May 25 F. 1888, Dec. 10	PARSONS, ROBERT MAURICE PETERS	Misterton, Crewkerne, Somersetshire.
A. 1890, Nov. 22 F. 1894, Oct. 10	*PARTRIDGE, EDWARD JOHN... ...	Bank Chambers, 39, George St., Richmond, Surrey, & 50, Lincoln's Inn Fields, W.C.
A. 1896, Oct. 28 F. 1899, Mar. 20	*PATCH, SHIRLEY HUTCHINS ...	The Chestnuts, Havelock Road, Addiscombe.
1890, Feb. 24	PATERSON, CHARLES	Canford Estate Office, Wimborne, Dorsetshire.
A. 1883, May 25 F. 1888, May 14	*PAULL, ALAN	6, Quality Court, Chancery Lane, W.C.
1880, Dec. 13	PAYNE, ALEXANDER, F.R.I.B.A. ...	Norfolk House, Victoria Embankment, W.C.
1882, Jan. 30	PAYNE, FREDERICK	10, Market Square, Bromley, Kent.
A. 1893, Oct. 4 F. 1898, Jan. 24	*PEARCE, FRED W....	Surveyor's Office, Town Hall, Twickenham.

‡ Special Forestry Certificate.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
2350	1891, Nov. 4	Peard, John Grigg	North Curry, near Taunton, Somerse shire.
3117	A. 1896, Oct. 28 F. 1901, Feb. 11	*Pearse, Octavius Burroughes	Lower Green, Tattenhall, Wolverhampt
2351	1891, Nov. 4	Pearse, William	Stoliford, Modbury, Devon.
2981	A. 1895, Oct. 24 F. 1896, Oct. 1	*Pearson, Harry John, A.R.I.B.A.	Architectural Department, Local Gove ment Board, Whitehall, S.W.
2603	A. 1893, Oct. 4 F. 1898, Jan. 10	*Pearson, Howard	40, Savernake Road, Hampstead, N.W
1270	1885, May 18	Peck, William Roland	1, Cockspur Street, S.W.
2353	1891, Nov. 4	Peirson, George Brodrick ...	Baldersby, S.O., Yorkshire.
2354	1891, Nov. 4	Peirson, Henry Thomas	Brancepeth, Co. Durham.
2105	1891, May 23	Pells, Arthur	Beccles and Lowestoft, Suffolk.
1651	1889, Dec. 9	Pemberton, Charles Oliver Paget	69, Temple Row, Birmingham.
21	1868, Jan. 15	Penfold, John Wornham, F.R.I.B.A. (*Honorary Secretary*)	30, Great George Street, S.W.
2852	1895, Sept. 2	Penrose, James Edward	Estate Office, Lismore Castle, Lismore
3013	1896, Jan. 21	Penrose, William Robert ...	Estate Office, Rose Lane, Waterford.
452	1876, May 8	Peppercorn, John Hutchinson	Manor House, Eaton Socon, St. Neots
2355	1891, Nov. 4	Perkins, Joseph	Frisby-on-the-Wreake, Leicester.
1341	A. 1886, Dec. 6 F. 1891, May 25	*Perkins, Walter Frank	Portswood House, Southampton, Hant
2106	1891, May 23	Perriam, Alfred Joseph	43, Cannon Street, E.C.
2356	1891, Nov. 4	Pether, Harry	8, Craig's Court, Charing Cross, S.W.
1252	1885, Feb. 9	*Peto, James Winder	6, Market Place, Reading, Berks.
428	1876, Feb. 21	Phillips, Frederick Hamilton	Beechcroft, Temple Ewell, nr. Dover, K
3164	A. 1897, Feb. 17 F. 1897, Dec. 6	*Phillips, William	14, Albion Road, Lewisham, S.E.
1652	1889, Dec. 9	Phillips, William Edwin	Eagle Chambers, Kingston-on-Thame
1043	1884, Jan. 14	Pickering, William Cloves ...	Rhewl House, Mostyn, Flintshire.
2357	1891, Nov. 4	Piercy, Henry Onslow	The Elms, Lowthorpe.
1617	1889, Apr. 1	Pierson, Charles	29, Cooper Street, Manchester.
968	A. 1883, May 25 F. 1836, Nov. 8	*†Pilditch, Philip Edward ...	2, Pall Mall East, Charing Cross, S. and Weybridge, Surrey.
1809	A. 1890, Nov. 22 F. 1901, July 2	*Pinder, Richmond	49, Upper Baker Street, N.W.
3253	A. 1897, Oct. 26 F. 1900, Oct. 1	*Pineger, James Reginald ...	6, Mount Street, Grosvenor Square,
1704	1890, Jan. 27	Pinks, Edwin Charles	Parliament Mansions, Victoria Str S.W.
3119	A. 1896, Oct. 28 F. 1897, Oct. 4	*Pinney, Frederick Wyldbore Digby	6, Waterloo Street, Birmingham.
2023	1891, Mar. 14	Popple, John...	19, St. Hilda's Terrace, Whitby, Y shire.
2359	1891, Nov. 4	Porter, John Merry...	The Estate Office, Colwyn Bay, N Wales.
2360	1891, Nov. 4	Poston, Henry	39, Lombard Street, E.C.

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† Special Sanitary Science Certificate.

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A. 1891 Jan. 17 F. 1894. Nov. 12	*POTTER, HERBERT GEORGE... ...	28, Roslyn Hill, Hampstead, N.W.
1891, Nov. 4	POTTS, JAMES...	Estate Office, Workington, Cumberland.
1870, Jan. 24	POUNDLEY, JOHN EDWARD	Kerry, Newtown, Montgomeryshire.
A. 1894, Oct. 30 F. 1898, Oct. 3	*POWELL, CHARLES REGINALD EVENDEN	Okehampton Park Estate Office, Okehampton, Devon.
1890, Nov. 22	POWELL, FREDERICK ATKINSON, F.R.I.B.A.	344, Kennington Park Road, S.E., and Agincourt Square, Monmouth.
A. 1883, Dec. 17 F. 1891, Mar. 2	POWELL, HUBERT JOHN	Hill Lodge, Lewes, Sussex.
A. 1874, Feb. 16 F. 1880, Nov. 22	POWELL, REGINALD HENRY ...	St. Swithun's Lane, High Street, Lewes, Sussex.
1896, June 2	POWELL, ROBERT	Estate Office, Westport, Co. Mayo.
A. 1892. Nov. 22 F. 1896, June 26	*PRALL, HERBERT ALEXANDER ...	Martin's Bank Chambers, Dartford, and 150, Eastgate, Rochester, Kent.
A. 1890, Nov. 27 F. 1896, June 26	*PRALL, HERBERT EDWARD	150, Eastgate, Rochester, and Martin's Bank Chambers, Dartford, Kent.
1891, Nov. 4	PREEDY, FREDERIC	Caldecote, St. Neots, Huntingdonshire.
A. 1888, Dec. 10 F. 1892, Dec. 5	*PRESTON, SAMUEL DAVID	Town Hall, Camberwell, S.E.
1890, Apr. 14	PRICE, FRANCIS HOLBORROW GLYNN	Longlands Place, Swansea, Glamorganshire.
1891, Nov. 4	PRICE, JOHN, M.I.C.E.	The Council House, Birmingham.
A. 1892, Nov. 28 F. 1895, Nov 1	*PRICE, RICHARD ARNOLD	340, Balham High Road, Upper Tooting, and 2, Clapham Park Road, S.W.
1891, May 23	PRIDMORE, ALBERT EDWARD ...	2, Broad Street Buildings, E.C., and 28, High Street, Watford, Herts.
1890, Nov. 22	PRIDMORE, ARTHUR STIRLING ...	140, Junction Road, N.
A. 1894, Oct. 30 F. 1899, Mar. 20	*PRITCHARD, HERBERT ALFRED ...	14, Warwick Road, Earl's Court, S.W.
1890, May, 29	PRITCHETT, ELLIS HERBERT ...	Regent Circus, Swindon, Wilts.
1885, Nov. 9	PUNCHARD, FREDERICK	Underley Estate Office, Kirkby Lonsdale, Westmoreland.
A. 1890, Jan. 6 F. 1895, Feb. 18	*PUNCHARD, FREDERICK BURT ...	Enville Estate Office, near Stourbridge.
1895, Sept. 2	PURCELL, WILLS W.	Dromore, Mallow, Co. Cork.
A. 1884, Jan. 28 F. 1889, Jan. 28	PURCHASE, EDWARD KEYNES ...	Mansion House Chambers, 11, Queen Victoria Street, E.C.
1898, Feb. 18	PURDIE, ANTHONY	241, West George Street, Glasgow.
A. 1895, Oct. 24 F. 1897, Jan. 11	*PURVIS, CHARLES JAMES	Deptford Bridge, S.E.
1895, Sept. 2	QUIN, RICHARD	9, Crosthwaite Park West, Kingstown, Ireland.
1895, Sept. 2	QUIN, WILLIAM THOMAS CUFFE...	Kilbeggan, Co. Westmeath.

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2635	A. 1894, Feb. 23 F. 1896, Oct. 1	*RAFFETY, HERBERT WILLIAM ...	55, Pall Mall, S.W., and Leek Wootto Warwick.
1462	1888, Feb. 20	RAIKES, COLONEL GEORGE WHITTINGTON	Ragley Estate Office, Alcester, Reddit
3066	1896, Oct. 28	RAVES, BERTRAM ADAMS, A.M.I.C.E.	Royal Engineer Office, Valletta, Malta
902	1883, Feb. 26	RAWLENCE, ERNEST ALFRED ...	Newlands, Salisbury, Wilts.
2026	1891, Mar. 14	RAWLENCE, JAMES EDWARD ...	The Canal, Salisbury, Wilts.
1859	1890, Nov. 22	RAWLINS, HENRY ADAIR, A.R.I.B.A.	46, Queen Victoria Street, E.C.
2367	1891, Nov. 4	RAWLINS, WILLIAM	45, King William Street, E.C.
134	1868, Oct. 26	RAYNBIRD, HUGH EDWARD ...	Basingstoke, Hants.
1516	1888, Dec. 10	REA, JOHN MARCUS BEAUMONT...	8, Winckley Street, Preston, and Lytha Lancashire.
3329	1898, Oct. 29	REA, JOHN TODD	Royal Engineer Office, Curragh Cam Co. Kildare, Ireland.
1139	1884, Apr. 21	READ, GEORGE HUNTLY	27, Albany Street, N.W.
2109	1891, May 23	REBBECK, EDWARD WISE	Stafford Lodge, Bournemouth, Hants.
2368	1891, Nov. 4	REBBECK, THOMAS WARREN ...	Gervis Place, Bournemouth, Hants.
1860	1890, Nov 22	REES, ITHEL TREHARNE, M.I.C.E.	Guildhall Chambers, Cardiff, Glamorg shire.
584	1880, Dec. 13	REES, WILLIAM ANDREW	7, Cornhill, E.C.
544	1879, Apr. 28	REES, WILLIAM GEORGE	Holly House, Newport, Monmouthshi
2369	1891, Nov. 4	REES, WILLIAM JOHN	The Laurels, Swansea, Glamorgansh
2370	1891, Nov. 4	REEVE, KINGSNORTH	27, High Street, Rye, Sussex, and H Street, Lydd, Kent.
3121	A. 1896, Oct. 28 F. 1897, Oct. 4	*†REFFELL, CHARLES ARTHUR ...	8, Alwyne Villas, Maybury Rd., Wok Surrey.
3334	1898, Oct. 29	*REID, ARTHUR FLETCHER	5, Clement's Inn, Strand, W.C.
937	1883, Apr. 30	RENDELL, ARTHUR STEPHEN ...	Market Terrace, Newton Abbot, Dev
3071	1896, Oct. 28	*RENTON, GEORGE	1, Albert Street, Harrogate, Yorkshi
802	A. 1882, Apr. 24 F. 1890, Jan. 27	REX, FRANCIS HERBERT	311, Kentish Town Road, N.W.
453	A. 1876, May 8 F. 1881, Dec. 6	RICH, ROBERT	Didcot, Berks.
890	1883, Feb. 12	RICHARDS, ALFRED	Tottenham, N., and 18, Finsbury Cir E.C.
2027	1891, Mar. 14	RICHARDS, GEORGE EDWARD ...	Stour Lodge, Wimborne, Dorset.
2110	1891, May 23	RICHARDS, WILLIAM	Tottenham, N., and 18, Finsbury Cir E.C.
3122	A. 1896, Oct. 28 F. 1901, Apr. 29	*RICHARDSON, ARTHUR BAYLIFFE	83, Bishopsgate Street Without, E.C
1955	1891, Jan. 17	RICHARDSON, CHARLES	15, Barn Hill, Stamford, Lincolnshir
1746	1890, Feb. 24	RICHARDSON, GEORGE	5, Lonsdale Street, Carlisle, Cumber
1817	1890, May 29	RICHARDSON, JAMES	15, Barn Hill, Stamford, Lincolnshir

† Special Sanitary Science Certificate.

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1	1876, Dec. 18	Richardson, John, M.I.C.E.	Methley Park, Leeds, Yorkshire.
6	A. 1891, Nov. 4 F. 1892, May 30	*Richardson, Oliver Archer	Sun Fire Office, Threadneedle St., E.C.
5	1890, Jan. 27	Richmond, Walter Coleridge	Ivy Rock, Vicar's Cross, Chester.
3	1873, Feb. 10	Rickman, Thomas Miller, A.R.I.B.A. (*Past-President*)	8, Montague Street, Russell Sq., W.C.
3	1891, Nov. 4	Riddett, William Hammond	Townhall Chambers, Ryde, Isle of Wight.
4	1883, Apr. 2	Riddle, Frederick Henry Brimble	14, Pont Street, Belgrave Square, S.W.
5	A. 1899, Oct. 30 F. 1900, June 27	*Ridley, Percy Edward	34, Gorst Road, Wandsworth Common, S.W.
8	1891, Mar. 14	Rigden, Francis	Salisbury, Wilts.
1	1891, May 23	Rigg, Charles	24, High Street, Cardiff, Glamorganshire.
7	1888, Dec. 10	Righton, Edward Grantham	High Street, Evesham, Worcestershire.
4	1891, Nov. 4	Rix, George Kerry	Somerleyton, near Lowestoft, Suffolk.
2	1899, Feb. 16	Robb, William Johnston	53, Bothwell Street, Glasgow.
3	A. 1876, Jan. 24 F. 1890, Nov. 10	Roberts, Charles Quincey	61, Lincoln's Inn Fields, W.C.
8	1895, Sept. 2	Roberts, Edward Ussher	The Rent Office, Longford, Ireland.
2	1890, Feb. 10	Roberts, Henry Croydon	78, King William Street, E.C.
0	1868, Aug. 17	Roberts, Richard	42, New Broad Street, E.C.
7	1900, Nov. 12	Roberts, Samuel	Royal Engineer Office, Gibraltar.
0	1898, Feb. 18	Robertson, Walter Wood	3, Parliament Square, Edinburgh.
4	A. 1882, Feb. 13 F. 1891, May 25	Robey, Robert	Oaklands, East Tytherley, Romsey, Hants.
8	A. 1892, Feb. 26 F. 1895, Nov. 1	*Robins, Philip Seymour	5, Waterloo Place, Pall Mall, S.W.
3	1881, Jan. 24	Robins, William H., A.M.I.C.E.	82a, New Street, Birmingham.
0	1887, Jan. 10	Robinson, Charles Edward	36, Coleman Street, E.C.
2	1891, May 23	Robinson, Edmund Arthur	Lee-on-the-Solent, Gosport, Hants.
5	1891, Nov. 4	Robinson, George Edward	9, Tacketts Street, Blackburn, Lancashire.
8	1881, Apr. 4	Robinson, Henry, M.I.C.E.	Westminster Chambers, 13, Victoria St., S.W.
1	1895, Sept. 2	Robinson, Henry Arthur	Roundstone, Galway.
7	A. 1891, Nov. 4 F. 1894, Oct. 10	*Robinson, Henry Herbert	New Inn Chambers, Wych St., Strand, W.C.
9	1895, Sept. 2	Robinson, James Dodwell	Seamount, Sligo, Ireland.
2	1895, Sept. 2	Robinson, Richd. St. George	Seamount, Sligo, Ireland.
6	A. 1897, Oct. 26 F. 1898, Oct. 3	*Robinson, Theodore Richard	25, Campden Hill Gardens, Kensington, W.
0	1895, Sept. 2	Robinson, William Godfrey	Roughan Park, Dungannon, Co. Tyrone.
1	1872, Dec. 9	Robson, Edward Robert, F.R.I.B.A.	Palace Chambers, 9, Bridge Street, S.W., and 2, The Paragon, Blackheath, S.E.

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2833	1895, Sept. 2	Rochfort, William	Cahir Abbey, Cahir, Co. Tipperary.
1453	1888, Feb. 6	Roderick, John	2, Temple Row West, Birmingham.
1747	1890, Feb. 24	Rodham, John	16, Finkle Street, Stockton-on-Te Durham.
2834	1895, Sept. 2	Roe, William James, B.A. (*Dublin*)	11, Westland Row, Dublin.
2835	1895, Sept. 2	Rogers, Harry	The Hill, Monaghan, Ireland.
3125	A. 1896, Oct. 28 F. 1897, June 28	*Rogers, Horace Mordaunt ...	50, Belgrave Road, South Belgravia, S.
1225	1884, Dec. 8	Rogers, William Bennett ...	78, Gloucester Road, South Kensingt S.W.
1570	1889, Jan. 28	Roker, Mitchel John	Snowdenham, West Cliff Road, Bour mouth.
361	A. 1874, Dec. 7 F. 1876, Jan. 24	Rolleston, Sir John Fowke Lancelot, M.P. (*President*) ...	5, Waterloo Place, S.W., and G Friars, Leicester.
969	A. 1883, May 25 F. 1889, Jan. 28	*Rolleston, William Gustavus Stanhope	Grey Friars, Leicester.
1344	A. 1883, Dec. 6 F. 1887, Nov. 14	*Roods, Alfred	School Board Offices, Victoria Emba ment, W.C.
3126	A. 1896, Oct. 28 F. 1900, May 21	*Rook, Joseph Taylor	23, Spencer Street, Carlisle, Cumberla
2113	1891, May 23	Rooke, Alfred Bradley	11, Great James St., Bedford Row, W
2376	1891, Nov. 4	Rooney, Samuel	Cefn Mably Chambers, 9, Quay St., Car
1681	A. 1889, Dec. 9 F. 1891, Jan. 5	Roper, John Simpson, A.M.I.C.E.	32, Market Square, Lancaster.
980	A. 1883, Nov. 12 F. 1887, Jan. 10	Roper, William	Kentish Buildings, Tunbridge We Kent.
1483	1888, Apr. 30	Rose, Thomas	21, Prince of Wales Road, Norw Norfolk.
3335	1898, Oct. 29	*Rowland, Joseph Samuel ...	Bridge Chambers, Burton-on-Tr Staffs.
940	A. 1883, Apr. 30 F. 1890, Jan. 27	Rowlandson, Christopher ...	The College, Durham.
2114	1891, May 23	Royce, David Needham	Oakham, Rutland.
2115	1891, May 23	Royce, John	Oakham, Rutland.
2029	1891, Mar. 14	Ruault, John Gustave Peter...	17, Southampton St., Bloomsbury, W
2030	1891, Mar. 14	Rudkin, Arthur John	St. Ann's, Bromley, Kent.
2377	1891, Nov. 4	Rumball, Aubrey	St. Alban's, Herts.
970	A. 1883, May 25 F. 1890, Jan. 6	*Rundle, Edward Collins ...	Bedford Office, Tavistock, Devon.
1023	A. 1883, Dec. 17 F. 1889, Feb. 25	Rüntz, Ernest Augustus... ...	10, 11, and 12, Walbrook, E.C.
315	A. 1873, Dec. 8 F. 1875, Nov. 8	Rushworth, Edmund Walter...	22, Savile Row, W.
2031	1891, Mar. 14	Russell, Murray Lawrence...	3, King Street, Cheapside, E.C.
1547	1889, Jan. 14	Rutherford, James Augustine	Estate Office, Highclere Park, Newb
998	1883, Dec. 17	Rutley, Charles...	11, Dowgate Hill, E.C.
1818	1890, May 29	Rutley, Frank	11, Dowgate Hill, E.C.
2836	1895, Sept. 2	Ruttledge, Francis...	Coolbawn, Enniscorthy, Co. Wexfor

Date of Election and of Transfer.	FELLOWS.	Address.
1895, Sept. 2	RUTTLEDGE, THOMAS HENRY BRUEN	42, North Great George St., Dublin, Ireland.
1891, Nov. 4	RYAN, WILLIAM PATRICK	1, Metal Exchange Buildings, Whittington Avenue, Leadenhall Street, E.C.
A. 1876, Dec. 18 F. 1880, Nov. 8	RYDE, ARTHUR LYON	29, Great George Street, S.W.
A. 1883, Feb. 26 F. 1891, June 29	RYDE, CHARLES BERTRAM ...	29, Great George Street, S.W.
1873, Jan. 20	SADLER, GEORGE WILLIAM ...	467, High Street, Cheltenham, Gloucestershire.
A. 1884, Dec. 8 F 1894, May 28	*SADLER, GEORGE WILLIAM, JUN., A.R.I.B.A.	Duchy of Lancaster Office, Lancaster Place, W.C.
1871, Feb. 13	ST. QUINTIN, PERRY	50, Threadneedle Street, E.C.
A. 1876, Mar. 20 F. 1889, Nov. 25	ST. QUINTIN, RICHARD SAMUEL	50, Threadneedle Street, E.C.
1888, Dec. 10	SALTER, WILLIAM HERBERT ...	The Hall, Attleborough, Norfolk.
1890, Apr. 14	SAMPLE, CHAS. HERBERT, B.A. (*Cantab.*)	Matfen, near Newcastle-on-Tyne, Northumberland.
1888, Jan. 9	SAMPLE, THOMAS	Bothal Castle, near Morpeth, Northumberland.
1890, Apr. 14	SAMPLE, WILLIAM COLLINGS ...	Tritlington Hall, Morpeth, Northumberland.
A. 1889, Dec. 9 F. 1891, Oct. 15	SAMPSON, WILLIAM	Beauchief Abbey, near Sheffield.
1887, Mar. 21	SAMUEL, WILLIAM JOHN	Newport Pagnell, Bucks.
1891, May 23	SANCTUARY, CAMPBELL FORTESCUE STAPLETON	Mangerton, Melplash, Dorset.
1875, Apr. 26	SANDAY, GEORGE HENRY	Highfield, Uxbridge.
1895, Sept. 2	SANDERS, CHARLES STEWART ...	Sanders Park, Charleville, Co. Cork.
1895, Sept. 2	SANDERS, ROBERT MASSY DAWSON	Sanders Park, Charleville, Co. Cork.
A. 1895, Oct. 24 F. 1899, Mar. 20	*SANDFORD, CHARLES SIDNEY ...	16, St. James Row, Sheffield, Yorkshire.
1899, Feb. 16	SANDFORD-THOMPSON, WILLIAM JAMES	Balmanno, Marykirk, Kincardineshire.
1876, Nov. 27	SANDY, HENRY	Newport Road, Stafford.
A. 1890, Jan. 6 F. 1892, Nov. 14	*SAUNDERS, CHARLES HERBERT...	150, Finchley Road, Hampstead, N.W.
1869, Feb. 22	SAUNDERS, EDWARD	48, Bishopsgate Street Within, E.C.
1891, Nov. 4	SAUNDERS, MARTIN L., A.R.I.B.A.	4, Coleman Street, E.C.
1891, Mar. 14	SAUNDERS, RUTLAND	48, Bishopsgate Street Within, E.C.
A. 1884, April 21 F. 1899, Oct. 2	*SAUNDERS, SAMUEL BROWN ...	"Pencairn," Manorgate Road, Kingston-on-Thames.
1891, Nov. 4	SAUNDERS, THEODORE RIDLEY ...	Belgrave Chambers, Ventnor, Isle of Wight.

Dip No.	Date of Election and of Transfer.	FELLOWS.	Address.
121	1868, Aug. 17	SAVILL, ALFRED *(Member of Council)*	39, New Broad Street, E.C., & Chigw Essex.
782	A. 1882. Mar. 13 F. 1889 Mar. 18	SAVILL, ALFRED, JUN.	39, New Broad Street, E.C.
1902	A. 1890, Nov. 22 F. 1893, Aug. 9	*SAVILL, EDWIN	39, New Broad Street, E.C.
3306	1898, Feb. 18	SAYER, GEORGE WILLIAM	Royal Engineer Office, The Barrac Great Brook Street, Birmingham.
867	A. 1883, Jan. 15 F. 1892, Feb. 1	SCAMMELL, THOMAS	1, St. Stephen Street, Bristol, Glouces- shire.
2713	A. 1894. Oct. 30 F 1899, Oct. 2	*SCOTT, ARCHIBALD LACY	Abbot's Bridge, Bury St. Edmun Suffolk.
2384	1891, Nov. 4	SCOTT, AUGUSTUS FREDERIC	24, Castle Meadow, Norwich.
1385	1887, Mar. 21	SCOTT, HENRY LACY	Bury St. Edmund's, Suffolk.
2870	1895, Sept. 2	SCOTT, JOHN RUSSELL	60, Mountjoy Square, Dublin.
3034	1896, June 2	SCOTT, JOHN WILLIAM	Roslevan, Ennis, Co. Clare.
3180	1897, Oct. 26	SCOTT, ROBERT	115, Wellington Street, Glasgow.
3621	1900, Feb. 23	*SCOTT-SMITH, ARTHUR COURTNEY	10, Gandy Street, Exeter, Devon.
629	A. 1881, Dec. 5 F. 1882, Apr. 24	SCOVELL, JOHN	29, St. Margaret's Road, Oxford.
755	A. 1882, Feb. 13 F. 1889, Mar. 4	SCRIVEN, CHARLES HERBERT	Agency Office, Thong, Gravesend, K
1861	1890, Nov. 22	SCRIVEN, RICHARD GEORGE	Castle Ashby, Northampton.
2647	1894, Oct. 30	*SCRUBY, WILLIAM THOMAS	Post Office Terrace, Cambridge.
1706	1890, Jan. 27	SEBASTIAN-SMITH, CHARLES	Shipley, Derby, & Friar Lane, Leice
3129	A. 1896, Oct. 28 F. 1899, Oct. 2	*SECKER, JOHN EUSTACE	Estate Office, Warrington, Lancashi
3259	A. 1897, Oct. 27 F. 1900, May. 21	*SEDGWICK, ALFRED SYDNEY EDWARD	195, Tulse Hill, S.W.
534	1879, Mar. 3	SELBY, CHARLES FREDERIC	21, Queen Anne's Gate, S.W.
1723	1890, Feb. 10	SELBY-BIGGE, CHARLES P. O.	Didlington Estate Office, Bran Norfolk.
1863	1890, Nov. 22	SENIOR, HARRY SAMUEL	Sturminster Newton, Dorset.
3130	A. 1896, Oct. 28 F. 1897, June 28	*SEXTON, GEORGE ALEXANDER	Bank Chambers, 42, High Road, Kil N.W.
823	A. 1882, Nov. 13 F. 1886, May 3	SEYMOUR, RICHARD ARTHUR HAMILTON	46, Earl Street, Maidstone, Kent.
1049	A. 1884, Jan. 14 F. 1891, Mar. 16	SHACKLE, EDWARD NEILD	7, Hobart Place, S.W.
3301	1898, Feb. 18	SHARP, JOHN GRANT	74, Buchanan Street, Glasgow.
431	1876, Mar. 6	SHAW, JOHN *(Past-President.)*	College Place, Derby.
950	A. 1883, May 21 F. 1890, Mar, 10	SHAW, JOHN, JUN.	The College, All Saints', Derby.
3261	A. 1897, Oct. 26 F 1898, Oct. 3	*SHEARBURN, HARRY, B.A. *(Cantab.)*	Munstead, Godalming, Surrey.
1819	1890, May 29	SHELMERDINE, HENRY	Estate Offices, Lancashire and Yorl Railway, Hunt's Bank, Manchest
1316	1886, May 3	SHERRIN, JOHN LESTER	40, Old Broad Street, E.C.
706	A. 1882, Jan. 16 F 1887, Dec. 5	SHERWIN, JOSEPH HENRY	7, Whitehall Place, S.W.

	Date of Election and of Transfer.	FELLOWS.	Address.
7	1891, May 23	Shilcock, James	Hitchin, Herts, & 15, Basinghall St., E.C.
5	1891, Nov. 4	Shone, Isaac, A.M.I.C.E.	47, Victoria Street, Westminster, S.W.
4	A. 1877, Jan. 29 F. 1880, Nov. 8	Shoppee, Chas. Herbert, F.R.I.B.A.	22, John Street, Bedford Row, W.C.
8	A. 1895, Oct. 24 F. 1900, June 27	*Shufflebotham, John Henry	Staplegrove, Taunton, Somerset.
4	A. 1881, Jan. 24 F. 1883, May 21	*Silcock, Thomas Ball, B.SC. *(Lond.)*	9, Miles's Buildings, Bath.
0	1882, Jan. 30	Simmonds, Frederick	Parkside, Englefield Green, Surrey.
4	1889, Dec. 9	Simmons, Charles	Henley-on-Thames, Oxfordshire.
1	A. 1882, May 8 F. 1889, Nov. 11	Simmons, Charles Franklin	Basingstoke, Hants, & Henley-on-Thames, Oxfordshire.
4	A. 1882, Nov. 13 F. 1891, Aug. 4	Simmons, William Anker	Henley-on-Thames and Basingstoke, Hants.
3	1883, Feb. 26	Simms, Walter	27, Albany Street, N.W.
4	1899, Feb. 16	Simpson, George	Town Hall, Leith, Edinburgh.
6	1888, May 14	Simpson, Robert Thomas	Horsecroft, Bury St. Edmund's, Suffolk.
6	1891, Nov. 4	Single, Arthur	83, The Grove, Stratford, E.
6	A. 1892, Nov. 28 F. 1897, May 31	*Skipper, Henry Herbert	Admiralty (Director of Works Department), 21, Northumberland Avenue, W.C.
7	1891, Nov. 4	Skitt, Arthur	Glenbrook, Trent Rd., Brixton Hill, S.W.
2	A. 1896, June 2 F. 1891, Oct. 3	*Skrimshire, Samuel	100, Jermyn Street, St. James', S.W.
5	A. 1898, Oct. 29 F. 1901, Feb. 11	*Skues, Charles Ayre Mackensie	9 and 10, Tokenhouse Yard, E.C.
8	1891, Nov. 4	Slade, James Benjamin	67 and 68, Cheapside, E.C.
3	A. 1890, Nov. 22 F. 1892, Nov. 14	*Slater, Charles Frederick	51, Cheapside, E.C.
8	A. 1894, Feb. 23 F. 1900, Feb. 12	*Sly, Joseph Townson	Estate Agency Offices, Rickmansworth, Herts.
1	A. 1896, Oct. 28 F. 1900, Oct. 1	*Sly, William	Estate Office, Somerset House, Whitehaven, Cumberland.
1	1897, Oct. 26	Smellie, George	167, St. Vincent Street, Glasgow.
9	A. 1895, Oct. 24 F. 1900, Oct. 1	*Smith, Charles Gordon	56, Cannon Street, E.C., and 33, West Bank, Stamford Hill, N.
6	1889, May 13	Smith, Edward	54, Amwell Street, E.C.
4	1888, Apr. 30	Smith, Frank	37, Cannon Street, Birmingham.
9	1891, Nov. 4	Smith, Frank Adams, A.M.I.C.E.	35, New Broad Street, E.C.
6	A. 1893, Oct. 4 F. 1895, July 8	*Smith, Frank Braybrooke	South Eastern Agricultural College, Wye, Kent.
8	A. 1888, Dec. 10 F. 1890, Jan. 27	*Smith, Frank William	Beauchamp Hill, Milverton, Leamington, Warwickshire.
3	1891, Mar. 14	Smith, Frederic Ellison	Tanfield Chambers, Bradford, Yorkshire.
0	1891, Nov. 4	Smith, Frederick John	21, Portland Street, Southampton, Hants.
4	1891, Mar. 14	Smith, Frederick Robert	6, Great College Street, S.W.
5	1889, Dec. 9	Smith, George	Boughton-Monchelsea, Kent.
9	1891, May 23	Smith, George Alfred	78, Parchment Street, Winchester, Hants.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
2871	1895, Sept. 2	SMITH, GEORGE YOUNG	Rochlow, Omagh, Co. Tyrone.
1864	1890, Nov. 22	SMITH, HARRY RUSSELL	Exchange Buildings, Bradford, Yorkshi
400	A. 1875, Apr. 26 F. 1881, Jan. 24	SMITH, HENRY HERBERT	Chippenham, Wilts, & 7, Whitehall Pla S.W.
2391	1891, Nov. 4	SMITH, JOHN MOORE	14, Union Court, Old Broad Street, E.
1487	1888, May 14	SMITH, JOHN THOMPSON	Tattondale, Knutsford, Cheshire.
2118	1891, May 23	SMITH, PERCY PYNE CALDECOTT	63, Holland Road, Kensington, W.
1820	1890, May 29	SMITH, SIDNEY	Southwater, Horsham, Sussex.
2872	1895, Sept. 2	SMITH, SIDNEY EDWARD, B.A. (*Dublin*)	Derryvale, Roscrea, Co. Tipperary.
2392	1891, Nov. 4	SMITH, SIDNEY ROBERT JAMES, F.R.I.B.A.	14, York Buildings, Adelphi, W.C.
3265	A. 1897, Oct. 26 F. 1900, Nov. 12	*SMITH, SYDNEY ARTHUR	22, Chancery Lane, W.C.
894	A. 1883, Feb. 12 F. 1889, Feb. 25	SMITH, WHEATER	15, Cheapside, Bradford, Yorkshire.
1256	1885, Feb. 23	*SMITH, WILLIAM...	Upper Farm, Abbot's Salford, Evesha Worcestershire.
1372	1887, Feb. 21	SMYTH-RICHARDS, GEORGE COBLEY	6, Castle Street, Barnstaple, Devon.
1494	1888, Nov. 12	SNELLING, HENRY...	19 & 20, Walbrook, E.C., & Sidcup, Ke
2991	A. 1895, Oct. 21 F. 1900, Oct. 1	*SOUTHORN, CHARLES HERBERT	38, The Parade, Leamington S Warwickshire.
2607	A. 1893, Oct. 4 F. 1896, Nov. 9	*SOWELS, WILLIAM CLOWES... ...	Blackmore Heath Farm, Ockham, Ripl Surrey.
1821	1890, May 29	SPACKMAN, CHARLES CHANTREY	6, Terrace Walk, Bath, Somersetshire
96	1868, July 27	SPACKMAN, HENRY	6, Terrace Walk, Bath, Somersetshire
3182	1897, Oct. 26	SPROAT, ROBERT	Lennox Plunton, Kirkcudbright.
42	1868, June 15	SQUAREY, ELIAS PITTS ... ... (*Past-President*)	The Moot, Downton, Salisbury, and Great George Street, S.W.
1822	1890, May 29	SQUAREY, NEWELL WILLIAM PITTS	Bemerton, Salisbury, and 15, Gr George Street, S.W.
1067	1884, Jan. 28	SQUIRE, RICHARD...	2, Pont Street, Belgrave Square, S.W
1277	1885, Dec. 7	STACEY, HARRIE	Station Road, Redhill, Surrey.
2393	1891, Nov. 4	STALLARD, ALFRED EDWIN ...	West Street, Havant, Hants.
2394	1891, Nov. 4	STALLARD, WILLIAM	Sunny Lodge, Malvern Link, and Es Office, Madresfield, Malvern Link.
2992	A. 1895, Oct. 24 F. 1899, Mar. 20	*STANDEN, ARTHUR CARNEGIE ...	29, Fleet Street, E.C.
2395	1891, Nov. 4	STANFORD, CHARLES MAURICE...	23, High Street, Colchester, Essex.
3269	A. 1897, Oct. 26 F. 1901, July 2	*STANFORD, GEORGE	20, Waldeck Road, Ealing, W.
2036	1891, Mar. 14	STANGER, SAMUEL ARTHUR ...	21, Finsbury Pavement, E.C.
2120	1891, May 23	STANHAM, GEORGE GORDON ...	100B, Queen Victoria Street, E.C.
1437	1888, Jan. 9	STANLEY-DODGSON, STANLEY DICKINSON	Estate Office, Somerset House, Wh haven, Cumberland.
2609	A. 1893, Oct. 4 F. 1894, Oct. 10	*STAPLEDON, ERNEST ALLEN ...	Bridge Chambers, Bideford, North De

ip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
707	1890, Jan. 27	Start, Joseph William	Cups Chambers, High Street, Colchester, Essex.
396	1891, Nov. 4	Stedman, Charles Mason	3, Epirus Mansions, Walham Green, S.W.
469	1877, Jan. 15	Stenning, Alexander Rose, F.R.I.B.A. (*Member of Council*)	121, Cannon Street, E.C.
529	A. 1879, Jan. 6 F. 1882, Nov. 13	Stephenson, Charles William	38, Parliament Street, S.W.
323	1890, May 29	Stevens, Charles Vivian	60, Pall Mall, S.W.
397	1891, Nov. 4	Stevens, John Wm., A.R.I.B.A.	21, Bridge Street, E.C.
198	1884, May 26	Stevens, William Charles	22, Savile Row, W.
183	1897, Oct. 26	Stevenson, Allan	14, Cathcart Street, Ayr, N.B.
37	1891, Mar. 14	Stevenson, Edmd. Herbert, M.I.C.E.	38, Parliament Street, S.W.
97	1868, July 27	Steward, Herbert Thomas (*Vice-President*)	45, Parliament Street, S.W.
373	1895, Sept. 2	Stewart, Edward P., Capt.	21, Westland Row, Dublin.
374	1895, Sept. 2	Stewart, George Francis	Summerhill, Killiney, Co. Dublin.
593	A. 1899, Oct. 30 F. 1901 July 2	*Stewart, George Pakenham	21, Westland Row, Dublin, Ireland.
736	A. 1900, Oct. 30 F. 1901, July 2	*Stewart, Henry Pakenham	6, Leinster Street, Dublin, Ireland.
336	1898, Oct 29	*Stewart, Samuel Parr	Arbury, Nuneaton, Warwickshire.
375	1895, Sept. 2	Stewart, William Thomas	6, Leinster Street, Dublin.
38	1891, Mar. 14	Stirton, Thomas	Goldthorpe Farm, Old Cotes, Rotherham, Yorkshire.
38	1883, Apr. 30	Stock, Henry, F.R.I.B.A.	9, Denman Street, London Bridge, S.E.
121	1891, May 23	Stocks, Frederick William	Telephone Exchange Buildings, Barons Quay, Northwich, Cheshire.
576	1895, Sept. 2	Stokes, Richard	60, Dawson Street, Dublin.
554	1881, Dec. 19	Stoner, Alfred	Boston House, 63 & 64, New Broad Street, E.C.
599	1889, Mar. 4	Stooke, James	Courtenay Street, Newton Abbot, Devon.
35	1896, June 2	Stopford, The Hon. George Frederick William	The Estate Office, Gorey, Co. Wexford.
399	1891, Nov. 4	Stopher, Thomas	Winchester, Hants.
39	1891, Mar. 14	Street, Wm. Chas., F.R.I.B.A.	18, Walbrook, E.C.
93	A. 1895, Oct. 24 F. 1898, June 27	*Strouts, Lewis Herbert	Belgrave Place, St. Mary Cray, Kent.
08	1884, Feb. 25	Strudwick, Hayward James	Falcon Court, 32, Fleet Street, E.C.
15	A. 1875, Dec. 13 F. 1891, June 29	Strutt, The Hon. Edward Gerald (*Member of Council*)	21, Finsbury Circus, E.C., & Whitelands, Hatfield Peverel, Chelmsford, Essex.
77	1895, Sept. 2	Studdert, R. R.	Hazlewood, Quin, Co. Clare.
88	1888, May 14	Studdy, Thomas Edward	Estate Office, Basing Park, Alton, Hants.
87	1868, July, 20	Sturge, Robert Fowler	33, Corn Street, Bristol, Gloucestershire.
18	1868, June 15	Sturge, William (*Past-President*)	33, Corn Street, Bristol, Gloucestershire.
00	1891, Nov. 4	Surridge, Joseph Smith	Coggeshall, Essex.
01	1891, Nov. 4	Suthers, James	Harley Villas, Todmorden, Lancashire.

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3432	A. 1898, Oct. 29 F. 1900, Nov. 12	*Sutton, Frederick Stanley	74, New Kent Road, S.E.
2402	1891, Nov. 4	Swain, Ernest	26, High Street, Notting Hill Gate, W.
2403	1891, Nov. 4	Swain, Frank	170, High Street, Notting Hill Gate, W.
1427	A. 1887, Dec. 19 F. 1892, Feb. 1	Swetenham, Henry	Hawarden, Chester.
2878	1895, Sept. 2	Swiney, William D.	Moyagh, Ramelton, Co. Donegal.
1257	1885, Feb. 23	Sworder, Hugh	High Street, Epping, Essex.
2879	1895, Sept. 2	Synge, Edward	Rathe, Kingscourt, Co. Cavan.
1824	1890, May 29	Tabberer, Benj., F.R.I.B.A.	13, Basinghall Street, E.C.
2880	1895, Sept. 2	Tailyour, Alexander	Estate Office, Arklow, Co. Wicklow.
2881	1895, Sept. 2	Talbot-Crosbie, Wm. David	Cloonea, Mount Talbot, Roscommon.
2717	A. 1894, Oct. 30 F. 1897, Jan. 25	*Tallent, Edwin James	Brent Pelham, Buntingford, Herts.
3302	1898, Feb. 18	Tannahill, Robert Dunlop	Lands Valuation Office, Kilmarnock.
1317	1886, May 3	Tanner, Henry, F.R.I.B.A.	H.M. Office of Works, Storey's Gate Westminster, S.W.
1092	1884, Feb. 11	Tanner, James Melhuish	Wembworthy, North Devon.
2882	1895, Sept. 2	Tanner, Kearns Deane, Major	32, Upper Fitzwilliam Street, Dublin.
1115	A. 1884, Feb. 25 F. 1888, Dec. 10	Tanner, William	The Leys, Bryngwn Road, Newport Monmouthshire.
771	A. 1882, Feb. 27 F. 1889, Nov. 11	Tapp, Arthur	1, Prince's Street, Westminster, S.W and Southend-on-Sea, Essex.
2404	1891, Nov 4	Tasker, Henry Hugh	43, Penton Street, Pentonville, N.
2883	1895, Sept. 2	Tatlow, John Garnet	14, South Frederick Street, Dublin.
2884	1895, Sept. 2	Tatlow, Tissington William Garnett	32, Upper Fitzwilliam Street, Dublin.
2405	1891, Nov. 4	Taylor, Arthur William	159, High Street, Putney, S.W.
3067	1896, Oct. 28	Taylor, Edgar Charles	Royal Engineer Office, Singapor Straits Settlements.
1364	1887, Jan. 24	Taylor, Edward Fergusson	New Barnet, Herts, and 70 & 72, Cha cery Lane, W.C.
2548	A. 1892, Nov. 28 F. 1895, Nov. 1	*Taylor, Harry William	St. Nicholas Chambers, Amen Corne Newcastle-on-Tyne, Northumberlan
2923	1895, Sept. 2	Taylor, J. Godfrey L.	Grangeville, Fethard, Co. Waterford.
1471	A. 1888, Mar. 5 F. 1891, July 6	Taylor, John Herbert	12, Hanover Square, W.
678	A. 1881, Dec. 19 F. 1887, Feb. 7	Taylor, John Walton, F.R.I.B.A.	31, Westgate Road, Newcastle-on-Ty Northumberland.
1026	A. 1883, Dec. 17 F. 1889, Nov. 11	Taylor, Matthew	Northchapel, Petworth, Sussex.
1825	1890, May 29	Taylor, Richard Frederick	3, King Street, Cheapside, E.C.
3184	1897, Oct. 26	Taylor, Robert	70, Bath Street, Glasgow.
2406	1891, Nov. 4	Taylor, Samuel	Nuttall, Nottingham.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
407	1891, Nov. 4	TAYLOR, THOMAS WALTERS ...	25, Brazennose Street, Manchester.
506	1899, Oct. 30	*TAYLOR THOS. WILLIAM HARRIS	Estates Office, Killerton, Exeter, Devon.
639	A. 1894, Feb. 23 F. 1894, Oct. 10	*TEE, SAMUEL CLIFFORD	50, Moorgate Street, E.C.
469	A. 1891, Nov. 4 F. 1894, Oct. 10	*TEMPLE, FREDERICK WILSON ...	48, Sandgate Road, Folkestone, Kent.
885	1895, Sept. 2	TENER, EDWARD SHAW	The Square, Loughrea, Co. Galway.
1069	1884, Jan. 28	TEWSON, EDWARD	80, Cheapside, E.C.
859	A. 1882, Dec. 18 F. 1885, Jan. 12	TEWSON EDWARD ARTHUR	80, Cheapside, E.C.
610	A. 1893, Oct. 4 F. 1898, Oct. 3	*THEAKSTON, WILLIAM PEASE ...	Huntingdon.
806	A. 1882, Apr. 24 F. 1890, Nov. 10	THEOBALD, HENRY	6, South St., Finsbury Pavement, E.C. and 19, Cranboork Gardens, Cranbrook Road, Ilford, Essex.
924	1883, Apr. 16	THEOBALD, HENRY WELLS DEWHURST	110, Great Russell Street, W.C.
3053	A. 1896, June 2 F. 1898, June 6	*THEOBALD, JOHN MEDOWS	110, Great Russell Street, W.C.
3434	A. 1898, Oct. 29 F. 1901, Jan. 14	*THOMAS, CHARLES JOHN HOWELL	The Laurels, Swansea, Glamorganshire.
2408	1891, Nov. 4	THOMAS, GEORGE	Queen's Chambers, Cardiff, Glamorgan shire.
1765	1890, Mar. 10	THOMAS, GLEGGE	Cheshire Lines Committee, Centra Station, Liverpool.
2719	A. 1894, Oct. 30 F. 1901, July 2	*THOMAS, ILLTYD	17, Quay Street, Cardiff, Glamorganshire
2409	1891, Nov. 4	THOMAS, JOHN HENRY	78, Gloucester Rd., S. Kensington, S.W
841	1882, Dec. 18	THOMPSON, ARTHUR EDMUND ...	Leadenhall Buildings, E.C.
2411	1891, Nov. 4	THOMPSON, FRANCIS WILLIAM ...	18, Wood Street, Bolton, Lancashire.
2412	1891, Nov. 4	THOMPSON, GEORGE WILLIAM A.M.I.C.E.	8, Belmont Road, Wallington, Surrey.
3635	1900, Nov. 12	THOMPSON, ROBERT JAMES... ...	The Treasury, Whitehall, S.W.
1473	1888, Mar. 19	THORNE, ARNOLD, F.R.I.B.A. ...	Cross Street, Barnstaple, Devon.
757	A. 1882, Feb. 12 F. 1889, Nov. 25	THORPE, CHRISTOPHER	Spring House, Calow, Chesterfield Derbyshire.
2122	1891, May 23	THORPE, JOHN	Nailstone, Nuneaton, Leicestershire.
2722	A. 1894, Oct. 30 F. 1895, July 8	*THRING, DOUGLAS THEODORE ...	Granville Estate Office, Bude, Nort Cornwall.
2500	A. 1892, Feb. 26 F. 1900, Nov. 12	*THURGOOD, ALBERT EDWARD ...	Town Hall Chambers, Guildford, Surrey
591	A. 1880, Dec. 13 F. 1887, Nov. 14	THURNALL, JOHN EDWARD	Royston, Herts.
494	1878, Jan. 14	THURSFIELD, THOMAS HOWELLS	The Grange, Much Wenlock, Shropshire
45	1868, June 15	THYNNE, EDWARD LEWIS	9, Victoria Street, S.W.
1070	1884, Jan. 28	THYNNE, GUY HARRY	9, Victoria Street, S.W.
1865	1890, Nov. 22	TIDMAN, EDWARD	Connaught Mansions, 34, Victori Street, S.W.
373	1887, Feb. 21	TINDALL, CHARLES WILLIAM ...	Wainfleet, R.S.O., Lincolnshire.
886	1895, Sept. 2	TISDALL, HY. CHICHESTER	21, Lincoln Place, Dublin.

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2413	1891, Nov. 4	Todd, Richard	Englefield, near Reading, Berks.
1241	1885, Jan. 12	Todd, William Henry, M.I.C.E.	County Buildings, Hull, Yorkshire.
1438	1888, Jan. 9	Tomlinson, Thomas	2, St. James's Street, Derby.
1600	1889, Mar. 4	Tompsett, William Robert	Meadhurst, Tonbridge, and Stone Castle Farm, Paddock Wood, Kent.
1827	1890, May 29	Tomson, James John	The Châlet, King's Norton, near Birmingham.
766	1882, Feb. 27	Tootell, Charles	13, King Street, Maidstone, Kent.
767	1882, Feb. 27	Tootell, Joseph	13, King Street, Maidstone, Kent.
473	1877, Jan. 29	Tootell, Richard William	11, Queen Victoria Street, E.C.
2550	A. 1892, Nov. 28 F. 1896, Feb. 3	*Tory, John Edward	Dorchester, Dorset, & Yeovil, Somerset.
447	1876, Apr. 24	Tower, Brownlow Richard Christopher	Bridgewater Estate Office, Ellesmere, Salop.
2736	A. 1895, Mar. 6 F. 1898, Oct. 3	*Townend, William	Park Farm, Seacroft, near Leeds, Yorkshire.
2888	1895, Sept. 2	Townsend, Robert Uniacke Fitzgerald	18, South Mall, Cork, Ireland.
2890	1895, Sept. 2	Townshend, Charles Loftus	15, Molesworth Street, Dublin.
2892	1895, Sept. 2	Townshend, James Richard Clarke	23, South Frederick Street, Dublin.
2893	1895, Sept. 2	Townshend, Loftus Thomas	15, Molesworth Street, Dublin.
2894	1895, Sept. 2	Townshend, Thomas Courtney	23, South Frederick Street, Dublin.
2414	1891, Nov. 4	Trafford, Frederick Charles	100, Jermyn Street, St. James's, S.W.
972	A. 1883, May 25 F. 1886, Nov. 8	*Treadwell, Henry John	2, Waterloo Place, Pall Mall, S.W.
2895	1895, Sept. 2	Trench, Arthur	Dromkeen, Cavan, Ireland.
2896	1895, Sept. 2	Trench, Geo. Frederic, B.A. (*Dublin*)	Estate Office, Ardfert, Co. Kerry.
2897	1895, Sept, 2	Trench, James Currie	Coolgraney, Dundrum, Co. Dublin.
2899	1895, Sept. 2	Trench, Philip Francis Chenevix	30, Kildare Street, Dublin.
415	1891, Nov. 4	Trepplin, Ernest C.	Stoke Court, Taunton, Somersetshire.
1001	1883, Dec. 17	Trethewy, Henry	Silsoe, Ampthill, Beds.
1292	1886, Jan. 11	Trist, John William	3, Great St. Helen's, E.C.
355	1874, May 11	Trollope, Charles Brown	Broad Sanctuary Chambers, Tothill Street, Westminster, S.W.
592	A. 1880, Dec. 13 F. 1891, Jan. 19	Trollope, Henry Charles	7, Hobart Place, S.W.
1131	A. 1884, Mar. 10 F. 1891, Aug. 4	Trumper, John Alfred	23, Lincoln's Inn Fields, W.C.
2040	1891, Mar. 14	Tubbs, Walter Burnell	17 and 18, Basinghall Street, E.C.
2470	A. 1891, Nov. 4 F. 1896, Jan. 6	*Tuckett, Percival Fox	2, Basinghall Street, E.C.
2416	1891, Nov. 4	Turner, Alexander Henry	199, Piccadilly, W.
1495	1888, Nov. 12	Turner, Charles	Oakhurst, East Grinstead, Sussex.
2900	1895, Sept. 2	Turner, Frederick Adolphus Brabazon	The Estate Office, Gorey, Co. Wexford.

Date of Election and of Transfer.	FELLOWS.	Address.
1883, Feb. 26	Turner, Frederick John	Mansfield-Woodhouse, Mansfield, Notts.
1890, Nov. 22	Turner, Joseph Harling	Portland Estate Offices, Kilmarnock.
1891, May 23	Turner, Thomas Neve	2, Somerset Road, Ealing, W.
1888, Dec. 10	Turner, Thomas Warner	Welbeck Abbey, Worksop, Notts.
1885, Jan. 26	Turnor, Exsuperius Weston	The Green, Stafford.
1890, Nov. 22	Turton, Edward James	Horkstow, Barton-on-Humber, Lincolnshire.
1898, Oct. 29	*Tutt, Edwin Thomas	Market Place, Ampthill, Beds.
A. 1890, Jan. 6 F. 1893, Aug. 9	*Tyler, James William	45, Holborn Viaduct, E.C.
1895, Sept. 2	Tyndall, Albert Henry	Ballyanne House, New Ross, Co. Wexford.
1895, Sept. 2	Tyrrell, Garrett Charles, M.A. (*Dublin*)	Ballinderry, Carbery, Co. Kildare.
A. 1900, Oct. 30 F. 1901, July 2	*Upsdale, Andrew Reed	738, Romford Road, Manor Park, E.
1883, Feb. 26	Vaizey, John George	Bocking, Braintree, Essex, & 44, Bedford Row, W.C.
1891, May 23	Vallance, Robt. F., F.R.I.B.A.	Mansfield, Notts.
1895, Sept. 2	Vandeleur, Cecil Ernest	Estate Office, Mallow, Co. Cork.
1895, Sept. 2	Vereker, Henry Robert	Summerville, Westport, Co. Mayo.
1876, Feb. 21	*Vernon, Arthur (*Vice-President*)	Borshams, High Wycombe, Bucks, and 29, Cockspur Street, S.W.
1895, Sept. 2	Vernon, Arthur Pomeroy	1, Wilton Place, Dublin.
1895, Sept. 2	Vernon, Fane	Pembroke Estate Office, Wilton Place, Dublin.
1891, Nov. 4	†Vernon-Inkpen, George Chas.	75, King's Road, Southsea, Hants.
1895, Sept. 2	Verschoyle, William Henry Foster	Woodley, Dundrum, Co. Dublin.
1876, Jan. 10	Vigers, Astley	4, Frederick's Place, E.C.
A. 1878, Jan. 28 F. 1883, Oct. 11	Vigers, Leslie Robert (*Member of Council*)	4, Frederick's Place, E.C.
A. 1880, Dec. 13 F. 1885, Nov. 9	Vigers, Martin	52, Queen Victoria Street, E.C.
1868, June 15	Vigers, Robert (*Past-President*)	4, Frederick's Place, E.C.
1888, Nov. 12	Villar, James	1a, Cambray, Cheltenham, Gloucestershire.
A. 1895, Oct. 21 F. 1898, Dec. 12	*Vinten, Harold Bertram	72, High Street, Ramsgate, Kent.
1889, Mar. 4	Wacher, Thomas	Upper Bridge Street, Canterbury, Kent.
1891 May 23	Wade, George Tempest	Halford Street, Leicester.

† Special Sanitary Science Certificate.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
2418	1891, Nov. 4	Wadling, Hy. John, F.R.I.B.A.	Lamb Building, Temple, E.C.
2419	1891, Nov. 4	Wadmore, Beauchamp, A.R.I.B.A.	8, Bream's Buildings, Chancery Lane, E.C
1618	1889, Apr. 1	Wagstaffe, Thomas Rogers	11, Devonshire Road, Balham, S.W., and 109, Leadenhall Street, E.C.
843	1882, Dec. 18	Wainwright Charles Rawlinson	Shepton Mallet, Somerset.
1631	1889, Nov. 25	Wainwright, Thomas Taylor (*Member of Council*)	13, Union Court, Castle St., Liverpool.
1392	1887, May 9	Walcott, Lyons Roden Sympson	Garvery, Bush Hill Park, Enfield, N and 1, Gray's Inn Place, W.C.
1869	1890, Nov. 22	Walker, Francis Elliott	Estate Office, Escrick, York.
2421	1891, Nov. 4	Walker, George Booth	Wainfleet, Lincolnshire.
3485	1899, Feb. 16	Walker, George James	3, Golden Square, Aberdeen.
743	1882, Feb. 13	Walker, Herbert, A.M.I.C.E., F.R.I.B.A.	Albion Chambers, King Street, Nottingham.
3486	1899, Feb. 16	Walker, John	74, Bath Street, Glasgow.
2127	1891, May 23	Walker, Joseph	Lenton Avenue, The Park, Nottingham.
1773	1890, Mar. 24	Walker, Joshua	Market Place, Retford, Notts.
659	1881, Dec. 19	Walker, Samuel	22, Moorgate Street, E.C.
1072	1884, Jan. 28	Wall, George Young	Exchequer Buildings, Durham.
2420	1891, Nov. 4	Wallace, George	St. Giles' District Board of Works, 19 High Holborn, W.C.
1178	1884, May 19	Wallace, Henry	Trench Hall, Gateshead-on-Tyne, C Durham.
3487	1899, Feb. 16	Wallace, Thomas Douglas	Callendar Park, Falkirk, Stirlingshire.
3326	1898, Oct. 29	Wallace, William Sydney Smith	"Bardennock," Moniaive, Dumfriesshi
1455	1888, Feb. 6	Wallington, John Arthur Beach	Basingstoke, Hants.
1028	A. 1883, Dec. 17 F. 1897, May 31	*Wallis, John David	20, Booth Street, Manchester.
785	1882, Mar. 27	Walmisley, Arthur Thomas, M.I.C.E.	9, Victoria Street, S.W., and Harbo Board Offices, Dover, Kent.
2042	1891, Mar. 14	Walmisley, Joseph William, F.R.I.B.A.	7, King's Terrace, Southsea, Hants.
3307	1898, Feb. 18	Walmsley, Arthur Tindal	Royal Engineer Office, Buncrana, ne Londonderry.
1828	1890, May 29	Wanklyn, Phillip Endell	Dixton, near Monmouth.
1407	1887, Dec. 19	Ward, Daniel	8, Courtenay Street, Plymouth, a Hewton, Beeralston, Devon.
1724	1890, Feb. 10	Ward, Felix John	The Gardens, Lydbury North, Shropshi
1469	1888, Mar. 5	Ward, Frank	Burnville, Tavistock, North Devon.
1029	A. 1883, Dec. 17 F. 1889, Nov. 11	Ward, George	"Lyndhurst," 2, Stowe Road, Gol hawk Road, W.
2909	1895, Sept. 2	Ward, The Hon. Somerset	Isle o' Valla House, Downpatrick.
660	1881, Dec. 19	Ware, Chas. Edwin, M.I.C.E.	Gandy Street Chambers, Exeter.
1141	1884, Apr 21	Waring, Charles Edward	15, The Walk, Cardiff, Glamorganshire
1871	1890, Nov. 22	Waring, Herbert Fuller	46, Earl Street, Maidstone, Kent,

Date of Election and of Transfer.	FELLOWS.	Address.
A. 1899, Oct. 30 F. 1901, July 2	*Warmington, Herbert Andrew Cromartie	11, Waterloo Place, S.W.
1891, Nov. 4	Warner, Alfred Ernest, A.R.I.B.A.	22, John Street, Bedford Row, W.C.
1889, Nov. 25	Warner, Henry	Faringdon, Alton, Hants.
A. 1869, Mar. 8 F. 1875, Apr. 12	Warner, William Henry	130, Mount Street, Grosvenor Square, W.
1895, Sept. 2	Warnock, Thomas Archibald	Portaferry, Co. Down.
1895, Sept. 2	Warren, Richard Lane	61, South Mall, Cork, Ireland.
1891, Nov. 4	Waterman, Albert James	20, Week Street, Maidstone, Kent.
1883, Jan. 29	Waterman, James	Tenterden and Ashford, Kent.
1891, Mar. 14	Waters, Edward	The Canal, Salisbury, Wilts.
A. 1882, Feb. 13 F. 1887, Mar. 7	Waters, William Richard	78, South Audley Street, W.
A. 1884, Feb. 11 F. 1889, Mar. 4	Watkins, Robert Arundel	Castle Combe, Chippenham, Wilts.
1868, June 15	Watney, Daniel (*Past President*)	33, Poultry, E.C.
1891, Jan. 17	Watney, Dendy	4a, Frederick's Place, E.C.
A. 1883, May 21 F. 1887, Feb. 21	Watney, Walter Daniel	9, Whitehall Place, S.W.
1889, Dec. 9	Watson, Alfred	Holmlea, Weybridge, Surrey.
1895, Sept. 2	Watson, Arthur B., LL.B., M.A. (*Dublin*)	11, Montpelier Parade, Monkstown, Co. Dublin.
1880, Mar. 1	Watson, Herbert Edward	New Grove, Petworth, Sussex, and 6, Lendal, York.
A. 1895, Oct. 24 F. 1899, Nov. 13	*Watson, Herbert John	Petworth, Sussex.
A. 1884, Dec. 8 F. 1895, Sept. 23	*Watson, James Bruce	Estate Office, Shirburn, Wallingford.
1891, Nov. 4	Watson, John	Cogan Chambers, Bowlalley Lane, Hull.
A. 1885, Dec. 7 F. 1894, May 28	*Watson, John, Jun.	Wentbridge Lodge, Pontefract, Yorks.
1895, Sept. 2	Watson, William James	Benvenue, Rostrevor, Co. Down.
1888, Feb. 6	Watt, Alexander	Ravenglass, Carnforth, Lancashire.
A. 1876, Dec. 18 F. 1879, Nov. 10	Watts, Charles	13, Southampton Street, Strand, W.C.
1891, Nov. 4	Watts, Samuel Lingard	40, South King Street, Cross Street, Manchester.
1889, Dec. 9	Way, Henry James	109, Lower St. James' Street, Newport, Isle of Wight.
1872, May 6	Weall, John	38, High Street, Watford, Herts.
1884, Jan. 14	Weatherall, Henry	22, Chancery Lane, W.C.
1882, Jan. 16	Weaver, William, M.I.C.E.	Town Hall, Kensington, W.
1895, Sept. 2	Webb, Charles	Rahilly, Sligo, Ireland.
1890, Feb. 10	Webb, William	Keepers Cottage, Furze Hill, Purley, Surrey.
1900, Nov. 12	Webb, William Harold	Royal Engineer Office, The Castle, Cape Town, South Africa.
1888, Apr. 16	Webster, Alexander	100, Highgate, and 9, Cliff Terrace, Kendal, Westmoreland.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
1908	A. 1890, Nov. 22 F. 1897, Feb. 8	*WEBSTER, HUGH CALTHROP ...	2, Basinghall Street, E.C.
1659	1889, Dec. 9	WELCH, FREDERICK WILLIAM ...	170, North Street, Brighton, and 3 Western Road, Hove, Sussex.
2128	1891, May 23	WELLS, EDWIN	Barnard Castle, Co. Durham.
3606	A. 1899, Oct. 30 F. 1900, Oct. 1	*WELLS, FREDERICK BEAUCHAMP	Farnborough Cottage, Limpsfield, Surre
2553	A. 1892, Nov. 28 F. 1896, Oct. 1	*WELLS, WILLIAM HENRY	22, Lower Phillimore Place, W.
1169	A. 1884, May 5 F. 1890, Dec. 8	WELLS, WILLIAM HOWLEY	Estate Office, Evershot, Dorset.
661	1881, Dec. 19	WELLSTED, WM. HENRY, A.M.I.C.E.	Prince's Dock Chambers, Hull, Yorkshi
2914	1895, Sept. 2	WELPLEY, JAMES	65, George Street Limerick, Ireland.
3152	1897, Feb. 17	WENBORN, SIDNEY THOMAS ...	War Office, Horse Guards, Whiteha S.W.
2615	A. 1893, Oct. 4 F. 1895, Sept. 23	*WEST, CHARLES HENRY EDWARD	5A, Orchard Street, Portman Square,
744	1882, Feb. 13	WESTBURY, GEORGE HENRY ...	The Knoll, Andover, Hants.
2045	1891, Mar. 14	WETHERALL, HARRY LANCASTER	Brachlyn, Winchfield, Hants.
1454	1888, Feb. 6	WHALLEY, HENRY SHAW	3, Hunter St., Town Hall Sq., Chester
779	1882, Mar. 13	WHARTON, THOMAS GEORGE ...	7 and 8, Ironmonger Lane, E.C.
3139	A. 1896, Oct. 28 F. 1900, May 21	*WHEATLEY, STEPHEN GLADSTANE	28 and 29, Chancery Lane, W.C.
2554	A. 1892, Nov. 28 F. 1897, June 28	*WHEELER, JOHN HENRY WEST ...	189, Fulham Road, South Kensingt S.W.
2616	A. 1893, Oct. 4 F. 1897, Oct. 4	*WHITAKER, ERNEST VICTOR ...	8, Queen Street, Exeter, Devon.
2427	1891, Nov. 4	WHITE, ALFRED EDWARD, A.M.I.C.E.	Town Hall, Hull, Yorkshire.
3015	1896, Jan. 21	WHITE, ARTHUR	99, George Street, Limerick, Ireland.
1959	1891, Jan. 17	WHITE, CHARLES ALEXANDER ...	18, High Street, Dorking, Surrey.
2428	1891, Nov. 4	WHITE, JAMES ALEXANDER... ...	18, High Street, Dorking, Surrey.
745	1882, Feb. 13	WHITE, JOHN	Warrington, Lancashire.
2916	1895, Sept. 2	WHITE, RICHARD	Johnstown House, Enfield, Co. Meat
2429	1891, Nov. 4	WHITE, WILLIAM HENRY	Eldon Buildings, 15, 16, and 17, E Street, E.C.
701	1882, Jan. 16	WHITELEY, CHARLES PERRY ...	82, Queen Street, E.C.
2723	A. 1894, Oct. 30 F. 1896, May 11	*WHITTAKER, JOHN DRONSFIELD, B.A. (*Cantab.*)	Oxford and Cambridge Club, Pall M S.W.
2998	A. 1895, Oct. 24 F. 1900, Nov. 12	*WHITTON, PERCY	24, Gandy Street, Exeter, Devon.
3303	1898, Feb. 18	WHYTE, JOHN...	Hollybank, St. Ninians, by Stirling,
1790	1890, Apr. 14	WIGLEY, GEORGE DAVYS EDWARD	Winslow, Bucks.
234	A. 1870, Feb. 7 F. 1876, Nov. 13	WIGRAM, JOHN	South Collingham, Newark, Notts.
3443	A. 1898, Oct. 29 F. 1899, Oct. 2	*WIGRAM, REGINALD SPENCER ...	1, Burbage Terrace, Wimborne, Do
2492	1892, Feb. 26	WILBRAHAM, EDWARD SIDNEY ...	Estate Office, St. Giles, Salisbury,
2046	1891, Mar. 14	WILDE, WILLIAM	Prockett House, Sharrow, Shef Yorkshire.

Date of Election and of Transfer.	FELLOWS.	Address.
1891, Nov. 4	Wilkin, Horace Martin	King's Lynn, Norfolk.
1891, Nov. 4	Wilkins, William	Pencastell, Llanelly, Carmarthenshire.
1882, Jan. 30	Wilkinson, George Ayscough	7, Poultry,, E.C.
1891, Jan. 17	Wilkinson, George Herbert	7, Poultry, E.C.
1884, Dec. 8	Wilkinson, Thomas	170, North Street, Brighton, and 30a, Western Road, Hove, Sussex.
1890, Mar. 10	Williams, Edward Bickerton	City Chambers, 82, New St., Birmingham.
1891, Nov. 4	Williams, Gerald Garnons	St. John's Mount, Brecon, S. Wales.
A. 1895, Mar. 6 F. 1898, May 2	*Williams, Henry Cuthbert	Messrs. Denyer & Co., High Street, Tunbridge Wells, Kent.
1884, Feb. 11	Williams, John	Gwernhefin, Bala, North Wales.
A. 1875, Jan. 18 F. 1890, Feb. 24	Williams, Leonard James	118, Queen Victoria Street, E.C.
A. 1880, Jan. 19 F. 1888, Apr. 16	Williams, William Herbert	Great Western Railway, Paddington, W.
A. 1893, Oct. 4 F. 1897, Feb. 22	*Willis, Edward	Forth Lodge, 293, Willesden Lane, Willesden Green, N.W.
1895, Sept. 2	Willis, Gilbert de Laval	4, Kildare Street, Dublin.
1895, Sept. 2	Willis, Henry de Laval	Ennis, Co. Clare.
1889, Feb. 25	Willmot, George Dyott	6, Waterloo Street, Birmingham.
A. 1882, Apr. 24 F. 1887, May 9	Willmot, John	6, Waterloo Street, Birmingham.
1895, Sept. 2	Wilson, Arthur Jn. de Courcy	Garvagh, Edgesworthstown. Co. Longford.
A. 1898, Oct. 29 F. 1899, Oct. 2	*Wilson, Frederick Robert	10, St. Nicholas Rd., Upper Tooting, S.W.
1883, Dec. 17	Wilson, Sir Jacob	Board of Agriculture, 3 St. James's Sq., S.W., and Chillingham, Alnwick.
1899, Feb. 16	Wilson, James	26, Renfield Street, Glasgow.
A. 1896, Oct. 28 F. 1899, Jan. 23	*Wilson, Lawrence Richard	St. Andrew's Chambers, Albert Square, Manchester.
1881, Dec. 19	Wilson, Thomas Silk	Albert Square, Manchester.
1891, Jan. 17	Wilson, William Henry	29, Fountain Street, Manchester.
1891, Nov. 4	Winn, Thomas	92, Albion Street, Leeds.
1898, Feb. 18	Winning, Douglas Campbell Wills	Municipal Buildings, Broughty Ferry, N.B.
1891, Jan. 17	Winterton, Harry John Campion	St. Mary's Chambers, Lichfield, Staffordshire.
1891, Jan. 17	Winterton, William Moxon	Walton Warren, Burton-on-Trent, Staffordshire.
1891, Nov. 4	Wise, Charles Dacres	Toddington, Winchcomb, Gloucestershire.
1891, Mar. 14	Withall, Latham Augustus, F.R.I.B.A.	Jewry House, Old Jewry, E.C.
1891, May 23	Wolfenden, Thomas	Estate Office, Scarisbrick Hall, near Ormskirk, Lancashire.
1891, Nov. 4	Wolley, Thomas John	Clungunford Estate Office, Aston-on-Clun, Salop.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	Address.
2640	A. 1894, Feb. 23 F. 1899, Jan. 23	*WONNACOTT, ERNEST WILLIAM MALPAS, A.R.I.B.A.	74, Torbay Road, Brondesbury, N.W.
1909	A. 1890, Nov. 22 F. 1891, May 25	*WOOD, CHARLES BRUCE	26, Haldon Road, West Hill, Wandswo S.W.
1474	1888, Mar. 19	WOOD, JOHN DANIEL	6, Mount Street, W.
2724	A. 1894, Oct. 30 F. 1901, Apr. 29	*‡WOOD, LESLIE STUART	66, Easton Street, High Wycon Bucks.
3447	A. 1898, Oct. 29 F. 1901, Apr. 29	*WOOD-MARTIN HENRY ROGER BROMHEAD	Cleveragh, Sligo, Ireland.
2048	1891, Mar. 14	WOOD, WILLIAM	Ivymeath, Snodland, Rochester, Ker
1873	1890, Nov. 22	WOODBRIDGE, STEPHEN, JUN., ...	210, High Street, Brentford.
1874	1890, Nov. 22	WOODFORDE, LIONEL BURNET ...	Milton Ferry, Peterborough, Nc amptonshire.
845	1882, Dec. 18	WOODHAMS, JAMES	Havelock Road, Hastings, Sussex.
2131	1891, May 23	WOODMAN, THOMAS FOSTER ...	32, St. Peter Street, St. Albans, Her
3507	1899, Oct. 30	*WOODROW, THOMAS JOHN	18, Coleman Street, E.C.
2557	A. 1892, Nov. 28 F. 1895, Oct. 1	*WOODS, ARTHUR GEORGE	Hampton House, Grove Road, Houns Middlesex.
2132	1891, May 23	WOODS, THOMAS	4 and 5, Church Parade, Houns Middlesex.
2439	1891, Nov. 4	WOODTHORPE, EDMUND, F.R.I.B.A., M.A. (*Oxon.*)	32, Gresham Street, E.C.
711	A. 1882, Jan. 16 F. 1890, Apr. 14	WOODWARD, WM., A.R.I.B.A. ...	13, Southampton Street, Strand, W
3287	A. 1897, Oct. 26 F. 1898, Oct. 3	*WOOF, ROBERT STEPHENSON ...	Estate Office, Lowther, Pen Cumberland.
2440	1891, Nov. 4	WOOLER, WALTER HERNAMAN ...	Waterloo Street, Weston-super-M Somersetshire.
2049	1891, Mar. 14	WOOLLEY, JOHN TURTON	Salisbury, Wilts.
613	1881, Feb. 21	WOOLLEY, REGINALD	Silver Street, Lincoln, & South Co ham, Newark, Notts.
427	A. 1876, Feb. 7 F. 1880, Nov. 8	WOOLLEY, THOMAS CECIL SMITH	South Collingham, Newark, Notts.
267	A. 1871, Nov. 13 F. 1877, Jan. 29	WOOLLEY, WILLIAM EDWARD ... (*Member of Council*)	The Red House, Loughbor Leicestershire.
1876	1890, Nov. 22	WORDSWORTH, ROBERT WALTER	Whitemoor, Ollerton, Notts.
680	A. 1881, Dec. 19 F. 1887, Jan. 10	WREATHALL, ROBERT T.	The Vestry Hall, St. Martin's I Trafalgar Square, W.C., and E House, Greenhill, Harrow.
2441	1891, Nov. 4	WRENNALL, WILLIAM	9, Harrington Street, Liverpool.
2442	1891, Nov. 4	WRIGHT, CHARLES WILLIAM, M.A. (*Cantab.*)	21, Park Street, Nottingham.
2443	1891, Nov. 4	WRIGHT, GEORGE THOMAS GREEN	3, Great Winchester Street, E.C.
2444	1891, Nov. 4	WRIGHT, JAMES	Rawcliffe, near Selby, Yorkshire.
292	1872, Dec. 9	WRIGHT, WILLIAM EDWARD ...	King's Lynn, Norfolk.
1749	1890, Feb. 24	WRIGHTSON, ARTHUR FREDERICK	26, Budge Row, E.C.

‡ Special Forestry Certificate.

Date of Election and of Transfer.	FELLOWS.	Address.
A. 1898, Oct. 29 F. 1901, July 2	*Wyatt, Herbert Guy Buckell	10, West Pallant, Chichester, Sussex.
1882, Jan. 30	Wyatt, Oliver Newman	East Street, Chichester, Sussex.
A. 1893, Oct. 4 F. 1895, Nov. 1	*Wyles, John Walter	Shortlands, Woodford Road, South Woodford, Essex.
1884, Mar. 10	Wyley, Henry James	Bridgnorth, Shropshire.
1884, Dec. 8	Wyley, William John	2, School Chambers, Shrewsbury, Shropshire.
1895, Sept. 2	Wynne, Alfred Henry	Collon, Drogheda, Co. Louth.
1891, Nov. 4	York, Henry	East Barnet Valley Urban District Council, Station Road, New Barnet, Herts.
A. 1881, Jan. 10 F. 1891, Jan. 5	Young, Andrew	London County Council, 17, Spring Gardens, S.W.
1892, Feb. 26	Young, Charles	Alton, Hants.
1890, May 29	Young, Douglas	51, Coleman Street, E.C.
1891, Nov. 4	Young, Edward Herbert, A.M.I.C.E.	Central Chambers, South Castle Street, Liverpool.
1895, Sept. 2	Young, George Lawrence	Randalstown, Co. Antrim.
A. 1891, Nov. 4 F. 1892, Nov. 14	*Young, Harry Austin Lindsay	The Johnstone Estate Office, Weymouth, Dorset.
A. 1878, Dec. 9 F. 1891, Feb. 2	Young, Morgan Henry	17, Southampton St., Bloomsbury Square W.C.
1891, Nov. 4	Young, Oswald William	Mersey Docks & Harbour Board, Liverpool.
1891, Nov. 4	Young, Thomas	6, Warwick Court, Gray's Inn, W.C.
A. 1897, Oct. 26 F. 1900, Feb. 12	*Young, Thomas John	South Eastern Agricultural College, Wye, Kent.
1899, Feb. 16	Yuille, Robert	58, South Portland Street, Glasgow.

Total number of Fellows, 1,897.

Professional Associates.

The names of those Professional Associates who have qualified for the Class by Examination are distinguished thu

The names of those Professional Associates who have further qualified by Examination for, but have not yet been tra
to, the Class of Fellows, are distinguished thus ¶

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
2648	1894, Oct. 30	*ADAMS, GERALD JAMES FREDERICK	King's Bridge Chambers, Cante Kent.
2929	1895, Oct. 24	*ADAMS, HERBERT	38, Sloane Street, Belgravia, S.W.
3192	1897, Oct. 26	*¶ADDIE, JOHN HEATHCOTE	Estate Office, Llanover, Aberga Monmouthshire.
3508	1899, Oct. 30	*ALDERSON, ROWLAND WILLIAM ...	Norton Lees, near Sheffield.
2564	1893, Oct. 4	*ALLEN, JOHN PARNELL	23, Victoria Buildings, Grainger West, Newcastle-on-Tyne.
3339	1898, Oct. 29	*ALLPRESS, HORACE EDWARD ...	59, Perrymead Street, Eel Common, S.W.
3338	1898, Oct. 29	*¶ALLSEBROOK, ARTHUR, B.SC. (*Edin.*)	2, Harcourt Buildings, Temple, E.
3073	1896, Oct. 28	*¶AMBLER, SYDNEY WOOD	10, Leighton St., Woburn, Bedfor
2931	1895, Oct. 24	*ANDERSON, THOMAS JOHN	70, Grand Parade, Harringay, N.
3340	1898, Oct. 29	*ANDREWS, ARTHUR GEORGE ...	14, Castle Street, Liverpool, Lanc
3341	1898, Oct. 29	*ANDREWS, HERBERT GEORGE ...	"Lyncroft," Woodhouse Lane, Finchley, N.
3074	1896, Oct. 28	*ANDREWS, STEPHEN HAMPTON ...	146, Doggett Road, Catford, S.E.
3193	1897, Oct. 26	*APPLEBY, FRANK SEFTON	138, Lawrence Road, Wav Liverpool.
3509	1899, Oct. 30	*ARMSTRONG, JOHN WM. WILSON	"Blacon," Stratford-on-Avon, Wa shire.
1877	1890, Nov. 22	*ARMYTAGE, FRANCIS REGINALD	Windsor House, Shrewsbury, Shro
3622	1900, Feb. 23	*ARNOLD, ALAN	Westgate Chambers, Winchester,
3640	1900, Oct. 30	*ARNOLD, HARRY HAGON	Victoria Chambers, Bank Plain. N Norfolk.
2650	1894, Oct. 30	*ASTLEY, REGINALD BASIL	Acton Reynold, Shrewsbury, Shro
3343	1898, Oct. 29	*ATTLEE, EDWARD GUY...	90, Burbage, Buxton, Derbyshire.
1878	1890, Nov. 22	*¶AYLEN, CECIL HUGH	Avondale, Edinburgh Road, Cars Surrey.
3194	1897, Oct. 26	*¶BADDELEY, BERNARD BERESFORD	33, Colberg Place, Stamford Hill,
1281	1885, Dec. 7	*BAKER, CECIL CAUTLEY	Rosses, Co. Sligo, Ireland.

† Special Sanitary Science Certificate.

p. o.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
53	1879, Dec 8	Balding, Albert	57, Coleman St., E.C., & Barkway, Herts.
22	1888, Dec. 10	*Ball, James Benjamin	Engineer's Office, L. D. & E. C. Railway, Chesterfield Derbyshire.
41	1900, Oct. 30	*Banks, Edward John Stanley	101, Bethune Road, Stamford Hill, N.
80	1890, Nov. 22	*Barclay, Thomas	7, Victoria Rd., Harborne, Birmingham.
47	1885, Jan. 26	*Barratt, Harry	Hill View, Corser Street, Stourbridge, Worcestershire.
90	1899, Feb. 16	*Barratt, Leigh	The Meadows, Felmingham, North Walsham, Norfolk.
42	1900, Oct. 30	*¶Basley, Harold Pullam	6, Clarence Road, Bickley, Kent.
46	1898, Oct. 29	*¶Baverstock, Harold Bridge	Messrs. Collier, Son, & Sparkes, Godalming, Surrey.
43	1900, Oct. 30	*¶Baylis, Albert Edward	171, Brunswick Road, Sparkbrook, Birmingham.
11	1899, Oct. 30	*Baylis, Alfred William	70, Lavender Sweep, Clapham Junction, S.W.
76	1896, Oct. 29	*Beach, Archibald William Hicks, Capt.	Mancetter House, Atherstone, Warwickshire.
51	1891, Nov. 4	*Beasley, John Arthur Llewellyn	37, Friar Lane, Leicester.
47	1898, Oct. 29	*Bedwell, Ernest Charles	29, Fleet Street, E.C.
51	1894, Oct. 30	*Beken, George, Jun.	65, Cazenove Road, Stamford Hill, N.
33	1895, Oct. 24	*¶Bentley, Harold Edwin	Percy Lodge, Twickenham Road Teddington.
48	1898, Oct. 29	*¶Berry, Charles Windsor	Ashburton Road, Addiscombe, Surrey.
19	1898, Oct. 29	*Betenson, Frederic Roger	26, Caversham Road, N.W.
50	1898, Oct. 29	*Bettridge, John Charles Lebon	83, Merton Hall Road, Merton, S.W.
51	1898, Oct. 29	*Bibbey, Thomas	Surveyor's Office, Audley, Staffordshire.
96	1897, Oct. 26	*¶Bickford, Joseph Grant	23, Charleville Road, West Kensington, W.
33	1875, Feb. 1	Bidwell, Shelford	Estates Office, Drayton Manor, Tamworth, Staffordshire.
9	1898, Feb. 18	*¶Bigg, Lionel Thursfield	Strathfield Saye, Mortimer, R.S.O., Berks.
44	1900, Oct. 30	*Bingham, William Raper	2, The Hermitage, Richmond, Surrey.
98	1897 Oct. 26	*¶Bird, John Bowyer	26, Harrington Gardens, S.W.
99	1897, Oct. 26	*¶Blackshaw, Charles	40a, Stafford Road, Kilburn, N.W.
45	1900, Oct. 30	*¶Bliss, Thomas Cushway	106, Cheapside, E.C.
35	1895, Oct. 24	*¶Blount, Edward	4, Frederick's Place, E.C.
33	1885, Dec. 7	*Blundell, Harry, A.M.I.C.E.	Engineer's Office, Great Central Railway, London Road, Manchester.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
1158	1884, May 5	Blunt, Herbert Arthur Scawen	Estate Office, Bifrons, near Canterb Kent.
3352	1898, Oct. 29	*Blyth, George Alfred	24, Lonsdale Road, Barnes, S.W.
3646	1900, Oct. 30	*Blythe, Harold King	8, Transfer Villas, Drove R Swindon, Wilts.
3077	1896, Oct. 28	*Boden, Maurice	133, Finchley Road, N.W.
2570	1893, Oct. 4	*Bodger, Percy Morris	Alexander Lodge, 4, St. Faith's L Norwich, Norfolk.
1159	1884, May 5	Bond, Frederick George... ...	Old Bank House, Ipswich, Suffolk.
2936	1895, Oct. 24	*Boord, Walter Bertram... ...	Bewerley, Pateley Bridge, Yorkshir
3512	1899, Oct. 30	*Booth, Ernest Witton	Borough Engineer's Office, Town Morley, Yorkshire.
3078	1896, Oct. 28	*Bösher, Victor Evans	13, Princes Street, Cavendish Squ W.
3647	1900, Oct. 30	*Bourchier, Claud J.	Charleville, Estate Office, Tullam Kings' County, Ireland.
1331	1886, Dec. 6	*Bousfield, Edwin Vaughan Davenport...	99, Gresham Street, E.C.
2133	1891, May 23	*Bowden, Ernest Newton	Milford House, Brooklands, Cheshi
3201	1897, Oct. 26	*Bowden, Harry	5, Worcester Gardens, Clapham Com S.W.
1523	1888, Dec. 10	*Bower, Arthur, Wentworth Chivers	Moat Hall, Ouseburn, Yorkshire.
3202	1897, Oct. 26	*¶Brackett, William Newbegin	41, Bath Street, Abingdon, Berks.
3513	1899, Oct. 30	*Bradshaw, Arthur George ...	7, Gage Street, Lancaster.
3079	1896, Oct. 28	*Bradshaw, Arthur Stanley ...	Borough Surveyor's Office, Town Bedford.
3514	1899, Oct. 30	*Brand, Edmund	The Grove, Pevensey, Sussex.
1965	1891, Jan. 17	*Brevetor, Thomas	28, Eldon Street, E.C.
1663	1889, Dec. 9	*Bridgford, Leo Appleton ...	28, Cross Street, Manchester.
3623	1900, Feb. 23	*¶Bridgewater, Clement Joseph Bentley	80, Cheapside, E.C.
3648	1900, Oct. 30	*Brierley, Hugh Colley	Estate Office, Troy, Monmouth.
1374	1887, Feb. 21	*Briggs, John...	London County Council, Spring Ga S.W.
3649	1900, Oct. 30	*Brimacombe, Charles Seymour	5, Worcester Gardens, Clapham Com S.W.
3515	1899, Oct. 30	*¶Brooker, Frederick George	Elm Bank, Sevenoaks, Kent.
3516	1899, Oct. 30	*Brooks, William Nathaniel ...	Tormarton, Chippenham, Wilts.
1073	1884, Jan. 28	Brown, Alexander	Home Farm, Hothfield, Ashford, K
3353	1898, Oct. 29	*¶Brown, Arthur Allen	Crown Hill, Croydon.
3491	1899, Feb. 13	*Brown, Arthur Frederick ...	17, Cheyne Gardens, Chelsea, S.W
3081	1896, Oct. 28	*Brown, Frederick	London County Council, Spring Ga S.W.
3354	1898, Oct. 29	*Brown, Thomas, Jun.	67, Lowther Street, Whitehaven, C land.

ip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
410	1887, Dec. 19	*Brown, William Edward	"Langla," Rosslyn Rd, Watford, Herts.
626	1894, Feb. 23	*Brown, William Lobin Trant	332, High Road, Kilburn, N.W.
650	1900, Oct. 30	*Browning, Egbert George	Royal Engineer Office, Curragh Camp, Ireland.
656	1894, Oct. 30	*Bruce, Alexander David	Elvetham Estate Office, Winchfield, Hants.
517	1899, Oct. 30	*¶Bruton, Basil Vassar	29, Fleet Street, E.C.
651	1900, Oct. 30	*¶Bruzaud, George Joseph	Estate Office, Eastlands, Weybridge, Surrey.
652	1900, Oct. 30	*Bryan, Arthur	Leicester Road, Nuneaton, Warwickshire.
944	1883, May 21	Buckland, William Thomas	9, Whitehall Place, S.W.
691	1890, Jan. 6	*Bulbeck, George	Clanfield, 84, Elms Road, Clapham Park, S.W.
653	1900, Oct. 30	*Bulley, Horace William	6, Park Villas, Polsloe Road, Exeter, Devon.
508	1892, Nov. 28	*Burder, Reginald Edward Campbell	Agricultural College, Uckfield, Sussex.
654	1900, Oct. 30	*Burman, William	Kiveton Park, near Sheffield, Yorks.
655	1900, Oct. 30	*¶Burr, Harry	67, High Street, Rushden, Northamptonshire.
355	1898, Oct. 29	*Burroughes, Charles, Fitzpatrick	Stoughton, Leicester.
204	1897, Oct. 26	*¶Burrows, Frank Herbert	41, Bank Street, Ashford, Kent.
357	1898, Oct 29	*¶Burton, Reginald Robert	78, Alderney Street, Pimlico, S.W.
412	1887, Dec. 19	*Buss, Fleetwood George William	City Bank Chambers, 44, Theobald's Road, Bedford Row, W.C.
358	1898, Oct. 29	*Butcher, Thomas Ewen	The Rowans, Beaconsfield Road, St. Albans, Herts.
941	1895, Oct. 24	*Butler, Richard Pierce	Ballin Temple, Tullow, Co. Carlow.
518	1899, Oct. 30	*Buttenshaw, Ernest Newth	South View, Sunnyside, St. Albans, Herts.
160	1884, May 5	Butterworth, Josiah	Mansfield, Notts.
658	1894, Oct. 30	*Cambridge, William James	Heckford Lodge, Eaton Hastings, Faringdon, Berks.
359	1898, Oct. 29	*Campbell, Charles Howard	Departo Ingenieros, Ferro Carril del Sud, Buenos Aires, South America.
799	1882, Apr. 24	Card, Henry	North Street, Lewes, Sussex.
249	1870, Dec. 12	Cardall, Frederic William	9, Whitehall Place, S.W.
492	1899, Feb. 16	*Cargill, Campbell Featherston	Matlock Bridge, Matlock, Derbyshire.
360	1898, Oct. 29	*¶Carr, Herbert Francis	170, Oxford Road, Reading, Berks.
452	1891, Nov. 4	*¶Carr, Thomas Edmund	21, Chapel Road, Redhill, Surrey.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
1413	1887, Dec. 19	*Carter, Alfred Presley	Rosslyn, Rectory Road, Rickmanswort Herts.
3207	1897, Oct. 26	*Cassin, Charles Langa	Mayfield, 94, Catford Hill, S.E.
3082	1896, Oct. 28	*Cathcart, Archibald Hamilton, The Hon.	31, Grosvenor Place, S.W.
3361	1898, Oct. 29	*Chadwick, Spencer	2, Pall Mall East, S.W.
1572	1889, Jan. 28	*Chalcraft, Henry Terrell ...	48, Bishopsgate Street Within, E.C.
2572	1893, Oct. 4	*Champion, George Ernest ...	Redwall Farm, Linton, Kent.
1006	1883, Dec. 17	Chapman, Vaughan Godfrey St. John	82, Queen Street, E.C.
3767	1901, Feb. 21	*Charles, Michael Thomas ...	Pelsall Hall, near Walsall, Staffor shire.
3016	1896, Jan. 21	*¶Chart, Christopher	Union Bank Chambers, Croydon.
3362	1898, Oct. 29	*¶Chattell, Francis Loriot ...	29A, Lincoln's Inn Fields, W.C.
1525	1888, Dec. 10	*Cheney, Edwin John, M.A. *(Cantab)*	Brooks Hall, Ipswich, Suffolk.
1121	1884, Mar, 10	Chester, William Richard	The Parade, Beckenham, Kent.
3363	1898, Oct. 29	*¶Chesterton, Frank Sidney ...	51, Cheapside, E.C.
3656	1900, Oct. 30	*Chesterton, Sidney James ...	140, Kensington High Street, W.
2509	1892, Nov. 28	*Child, Charles	Slinfold, near Horsham, Sussex.
1526	1888, Dec. 10	*Child, Edmund Herbert	Sandiacre, near Nottingham.
3208	1897, Oct. 26	*Chipp, George	Amesbury, Chippenham, Wilts.
3520	1899, Oct. 30	*Church, Geoffrey Redmore ...	63, Belsize Park, N.W.
3364	1898, Oct. 29	*¶Clark, Nathaniel, Jun. ...	Beamish, Pitt Hill, R.S.O., Durham.
3209	1897, Oct. 26	*Clarke, Charles Wentworth	Olympic Chambers, Land of Gr Ginger, Hull, Yorkshire.
3521	1899, Oct. 30	*Clarke, Leonard Eustace ...	Hillside, Clifton Terrace, Winchest Hants.
426	1876, Feb. 7	Clayden, Walter	6, Moorgate Street, E.C.
3658	1900, Oct. 30	*Clegg, Robert Langton	7, Carteret Street, Westminster, S.W
3659	1900, Oct. 30	*Clunn, Thomas Henry Gwyther	Westdene, Woodland Place, Pena Cardiff.
3660	1900, Oct. 30	*Cobb, Henry Alfred William	Care of Messrs. Tyler and Compa 45, Holborn Viaduct, E.C.
3211	1897, Oct. 26	*Cobbe, Henry Alexander ...	Hatfield, Herts.
1665	1889, Dec. 9	*‡Colbourn, Henry James... ...	Ulverstone, Tasmania.
3365	1898, Oct. 29	*Cole, Francis Joseph...	26, Brigstock Rd., Ashley R Bristol.
3522	1899, Oct. 30	*Cole, George Harry	10, Fernshaw Road, Chelsea, S.W.
3523	1899, Oct. 30	*¶Cole, James Thomson	Wood Hall, Newport, Essex.
1202	1884, May 26	Collier, Arthur Charles ...	5, Lancaster Place, Strand, W.C.
1831	1890, May 29	*Collyer, Daniel William ...	Sharples Hall, Bolton-le-Moors, La shire.

‡ Special Forestry Certificate.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
3366	1898, Oct. 29	*CONSTABLE, JOHN	3, Prince of Wales Place, The Canichers, Guernsey.
3524	1899, Oct, 30	*¶COOK, EDWARD ARTHUR	Dennington Lodge, Framlingham, Suffolk
3662	1900, Oct. 30	*COOK, FREDERICK CHARLES ...	Council Offices, Hinckley, Leicestershire.
3212	1897, Oct. 26	*COOKE, FREDERICK ROPER	Chard, Somersetshire.
2510	1892, Nov. 28	*COOKE, LIONEL	66, Cannon Street, E.C.
3663	1900, Oct. 30	*COOKE-YARBOROUGH, ORFEUR FREDERIC	Campsmount, Doncaster, Yorkshire.
3664	1900, Oct. 30	*COOPER, GEORGE AUGUSTUS ...	Messrs. Newman, 33 and 34, Savile Row, W.
3665	1900, Oct. 30	*COPE, GERALD HARWOOD	Broxton, Chester.
3367	1898, Oct. 29	*¶COPE, WILLIAM GEORGE	8, Orchard Street, Portman Square, W.
3666	1900, Oct. 30	*CORBETT, JOHN ROOKE, B.A. ...	9, Albert Square, Manchester.
2945	1895, Oct. 24	*CORFIELD, THOMAS	212, Brockley Road, S.E.
3084	1896, Oct. 28	*CORY, EDWARD JOHN	High Street, Rye, Sussex.
3213	1897, Oct. 26	*COUNCELL, THOMAS JAMES	267, Camberwell New Road, S.E.
2946	1895, Oct. 24	*COWELL, HERBERT LEE	Central Chambers, Newquay, Cornwall
3085	1896, Oct. 28	*COWELL, WILFRED LEE	Newquay, Cornwall.
3086	1896, Oct. 28	*¶COWIN, NORRIS TYNWALD ...	19, Denbigh Place, S.W.
747	1882, Feb. 13	COWPER, RICHARD WILLIAM ...	81, High Street, Sittingbourne, Kent.
2573	1893, Oct. 4	*COX, REGINALD JOHN	19, Preston Street, Brighton, Sussex.
3525	1899, Oct. 30	*CRAGG, GEORGE EDWIN	Engineering Department, Lancashire & Yorkshire Railway, 7, Mark Lane Withy Grove, Manchester.
3667	1900, Oct. 30	*CRAMPHORN, CHARLES HUBERT	69, Byne Road, Sydenham, S.E.
3526	1899, Oct. 30	*CRAMPTON, ARTHUR WESLEY ...	The Park, Mansfield, Notts.
222	1870, Jan. 10	CRAWLEY, WILLIAM JEEVES ...	Sayesbury, Sawbridgeworth, Herts.
2661	1894, Oct. 30	*CREGEEN, HUGH STOWELL, JUN....	"Hurst," Hamilton Road, Sidcup, Kent
615	1881, Mar. 21	CRESSWELL, JOHN THEODORE ROSE	9, Whitehall Place, S.W.
3668	1900, Oct. 30	*CROCKATT, HARRY	Central Chambers, Mostyn Street Llandudno, N. Wales.
3527	1899, Oct. 30	*CROFT, GEORGE HERBERT	10, Sussex Square, Brighton, Sussex.
3310	1898, Feb. 18	*¶CRONK, CHARLES TYLEE	Sevenoaks, Kent.
3528	1899, Oct. 30	*CROOK, HOLLIS AUGUSTUS	43, Bridge Avenue, Hammersmith, W.
2662	1894, Oct. 30	*CROSIER, CHARLES	The Limes, Mansfield-Woodhouse, Notts
335	1886, Dec. 6	*CROSLAND, WALTER	Estate Office, Buscot Park, Faringdon Berks.
548	1889, Jan. 4	*CROUCH, JAMES LEONARD	3, Guildhall Chambers, 33, Basinghall St E.C.
3043	1896, June 2	*CROZIER, GEORGE FRANCIS... ...	Sallowmount, Ballinasloe, Co. Galway.
537	1879, Mar. 17	CUDLIPP, WILLIAM	33, Poultry, E.C.
768	1901, Feb. 21	*¶CULLEN, FELIX VICTOR ...	Normandy Lodge, Grosvenor Road, Gunnersbury, W.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
877	1883, Jan. 29	CUMBERBATCH, CARLTON PARRY	9, Whitehall Place, S.W.
3216	1897, Oct. 26	*CUSHEN, CHARLES OSMON	Elmslea, Woodford Road, Snaresbroo Essex.
3529	1899, Oct. 30	*¶CUTLER, GEORGE ALFRED... ...	West Bank, Lewisham Hill, S.E.
3217	1897, Oct. 26	*DADD, CHARLES JOHN THOMAS ...	London County Council, Spring Garden S.W.
945	1883, May, 21	DAFFARN, THOMAS ALFRED ...	12, St. George's Avenue, Tufnell Park, N.
3156	1897, Feb. 17	*DAFFORN, GEORGE BERTIE	25, High Street, Wimbledon, S.W.
3369	1898, Oct. 29	*DANCASTER, ARTHUR	"Goodwin," Richmond Park, Bourn mouth, Hants.
3088	1896, Oct. 28	*¶DANIEL, HENRY WILKINSON ...	28, Victoria Street, Westminster, S.
3530	1899, Oct. 30	*DANIEL, HERBERT HOOD	Bank Chambers, Corn Street, Bristol.
3531	1899, Oct. 30	*DANN, HENRY, JUN.	Gwynant, Overcliffe, Gravesend, Ken
2628	1894, Feb. 23	*DARBISHIRE, HARRY VERNON ...	Oakdene, Cowden, Kent.
2574	1893, Oct. 4	*DAVID, GEORGE WILLOUGHBY, B.A. (*Cantab.*)	Old Bank Chambers, 27, High St., Card
3670	1900, Oct. 30	*DAVIDGE, WILLIAM ROBERT ...	"Hopetoun," Teddington Park Roa Teddington, S.W.
3219	1897, Oct. 26	*DAVIDSON, RICHARD BRUCE ...	Woodside, Queens Park, St. Hele Lancashire.
3671	1900, Oct. 30	*DAVIES, JAMES GEORGE MORRIS	21, Waterloo Road, Ashton-upon-Ribb Preston.
3532	1899, Oct. 30	*DAVIES, JOHN WILLIAM SATTERLEY HUMPHREYS	8, Laurence Pountney Hill, E.C.
2139	1891, May 23	*DAVIS, NEVILLE B., A.M.I.C.E. ...	Waterworks Office, Leicester.
3157	1897, Feb. 17	*DAVIS, WILLIAM HENRY HAROLD	Lynn Road, Wisbech, Cambridgeshir
946	1883, May 21	DAWSON, HENRY AUFRERE... ...	29, Lincoln's Inn Fields, W.C.
1008	1883, Dec. 17	DAWSON, WALTER HENRY	Forster Estate Office, Southend, Catf S.E.
2731	1895, Mar. 6	*DELAMARE, FRANK	Clun House, Surrey Street, W.C.
3672	1900, Oct. 30	*DELLSCHAFT, ADOLF HENRY ...	21, Drayton Park, Highbury, N.
3533	1899, Oct. 30	*DELVES, ROBERT HARVEY ADDINGTON	General Valuation Office, 6 Ely Pl Dublin, Ireland.
3220	1897, Oct. 26	*¶DENTON, WILLIAM	Montgomery Chambers, Hartsh Sheffield.
3534	1899, Oct. 30	*DICKINSON, JAMES MURGATROYD	Blackmoor, Liss, Hants.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
1528	1888, Dec. 10	*Dixon, Francis Edward, A.M.I.C.E.	49, Lune Street, Preston, Lancashire.
3535	1899, Oct. 30	*Dodd, Eustace Cyril Theodore	Belle Vue, Ashcroft Road, Cirencester.
3221	1897, Oct. 26	*Douglas, Bernard Moxon	Westcroft, Carshalton, Surrey.
3089	1896, Oct. 28	*Draper, Edwin Maxwell	3, Bucklersbury, E.C.
748	1882, Feb. 13	Drew, Allen	80, Cheapside, E.C.
3222	1897, Oct. 26	*Drew, Walter Hubert	Grove Cottage, Cookham Dean, Maidenhead, Berks.
2629	1894, Feb. 23	*Druce, Edric	Cheshire Agricultural College, Holmes Chapel, Cheshire.
3673	1900, Oct. 30	*Dudley, Roland	Municipal Offices, Harrogate, Yorkshire
3674	1900, Oct. 30	*¶Dunstall, Herbert Henry	9. New Road Avenue, Chatham, Kent.
3624	1900, Feb. 23	*Dunt, John Harlow	Ambleside, Kempshott Road, Streatham Common, S.W.
3371	1898, Oct. 29	*Dyer, Frederick Burfield	2, St. Andrew's Place, Lewes, Sussex.
3675	1900, Oct. 30	*¶Earle, John Wilfrid	43, Castle Street, Liverpool.
2578	1893, Oct. 4	*Easton, Walter John	101, Mill Hill Road, Mill Hill Park, W.
2580	1893, Oct. 4	*Elgar, Walter Robinson	Park Road, Sittingbourne, Kent.
3372	1898, Oct. 29	*Eliott, Arnold	Tokenbury, Liskeard, Cornwall.
3223	1897, Oct. 26	*¶Ellis, Alfred Cave	57, Chancery Lane, W.C.
3373	1898, Oct. 29	*¶Ellis, Arnold Robertson	Care of Messrs. Body and Son, Princess Chambers, Princess Square, Plymouth
3676	1900, Oct. 30	*Ellis, Rupert Lumley	29, Fleet Street, E.C.
3091	1896, Oct. 28	*Elphick, George Pelham	Foregate Street, Chester.
3537	1899, Oct. 30	*Ethelston, Hugh Wicksted	Hinton, Whitchurch, Salop.
2950	1895, Oct. 24	*Evans, Ernest Sydney	Abbotsford, Worple Road, Wimbledon S.W.
3017	1896, Jan. 21	*Evans, Percival Baker	55, Oxberry Avenue, Fulham, S.W.
3677	1900, Oct. 30	*Evans, Rupert Maurice	Borough Engineer's Office, Town hall Burton-on-Trent, Staffordshire.
2515	1892 Nov. 28	*Evered, Gilliebrand Elwin	Belmont Lodge, Berrylands, Surbiton Surrey.
2516	1892, Nov. 28	*Everett, Arthur Sherman	10, The Cloisters, Windsor Castle, Berks
2667	1894, Oct. 30	*Fagg, Edwin William	19, Camden Gardens, Shepherd's Bush, W
3092	1896, Oct. 28	*¶Fair, Arthur Edward	Estate Office, Haigh Hall, Wigan Lancashire.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
3225	1897, Oct. 26	*Farnham, William Augustus	Town Hall, Milton-next-Sittingbour Kent.
609	1881, Feb. 7	Few, Harry Garrard	3, Upper Richmond Rd., Putney, S.W
3374	1898, Oct. 29	*Field, Charles Roland	54, Borough High Street, S.E.
2668	1894, Oct. 30	*Finch, Clement Robert	Clarendon Lodge, Watford, Herts.
3093	1896, Oct. 28	*¶Fisher, Robert	37, Inman Rd., Craven Park, Harlesd N.W.
1123	1884, Mar. 10	Fitness, John Francis	80, Cheapside, E.C.
3011	1896, June 2	*Fleetwood, George Spalding	3, New Court, Carey St., Lincoln's In W.C.
916	1883, Apr. 2	Fletcher, George Rivers	2, Basinghall Street, E.C.
3769	1901, Feb. 21	*Fletcher, Harold Vernon	The Mount, Penshurst, Kent.
3018	1896, Jan. 21	*Flight, Alfred	South Street, Epsom, Surrey.
1888	1890, Nov. 22	*Forrest, William	Windsor Estate Office, St. Fagans, Car
1775	1890, Mar. 24	*Forster, Walter Hill	The Grove, Chapel Field, Norw Norfolk.
3045	1896, June 2	*¶Foster, Edward Charles	54, Pall Mall, S.W.
3375	1898, Oct. 29	*Foster, Henry Helm	Borough Engineer's Office, W Hartlepool, Durham.
3678	1900, Oct. 30	*Foster, Walter	54, Pall Mall, S.W.
3679	1900, Oct. 30	*Foster, William Howard	The Council Offices, Milnrow, Rochdale, Lancashire.
3376	1898, Oct. 29	*Foulkes, Noel Macintyre	2, South Road, Reigate, Surrey.
3538	1899, Oct. 30	*Fowler, Alfred Chas. Stanley	153, Fordwych Rd., W. Hampstead,
2732	1895, Mar. 6	*Fox, Charles Edward	7, Rawson Street, Halifax, Yorkshi
3680	1900, Oct. 30	*Fox, Ernest	15, Holdenhurst Road, Bournemo Hants.
3681	1900, Oct. 30	*Fox, William	15, Holdenhurst Road, Bournemo Hants.
3539	1899, Oct. 30	*Freeman, George	44, Alexandra Road, Wimbledon, S.
3682	1900, Oct. 30	*Freuer, William Samuel	The Manor Farm, Grimston, K Lynn, Norfolk.
2953	1895, Oct. 24	*Funnell, Horace Frederick	Hurstleigh, 35, Camberwell Grove,
751	1882, Feb. 13	Furber, Henry Aubrey	2, Warwick Court, Gray's Inn, W.C.
3094	1896, Oct. 28	*Gale, Arthur Witherby	Ranelagh Road, Winchester, Hants
3683	1900, Oct. 30	*¶Gale, Harry	Goring-on-Thames, Oxon.
1693	1890, Jan. 6	*Galsworthy, Vincent Somers	29, Fleet Street, E.C.
1889	1890, Nov. 22	*¶Garrard, Arthur Norman *(Professional Associate of Council)*	8, Frederick's Place, Old Jewry, E

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
2670	1894, Oct. 30	*GARRETT, ARTHUR BERRY... ...	16, Hanover Street, W.
702	1882, Jan. 16	GARROD, HERBERT JAMES	Cheveley, Newmarket, Cambridgeshir
3227	1897, Oct. 26	*GAYER, ALFRED EDWARD	Fairfield, Ashcombe Road, Westo super-Mare, Somersetshire.
3541	1899, Oct. 30	*¶GENGE, WILLIAM POPE, JUN. ...	46, London Road, East Grinstea Sussex.
3046	1896, June 2	*GETHIN, RANDOLPH GEORGE ..	Holywell, Co. Sligo,
3684	1900, Oct. 30	*¶GIBBON, EDWARD ACTON	The Cottage, Waterford, Ireland.
2671	1894, Oct. 30	*GILBERT, JOHN SAINSBURY... ...	70, Queen Street, Cheapside, E.C.
3378	1898, Oct. 29	*GOADBY, JOSEPH STUBBINS... ...	London County Council, 9, Sprin Gardens, S.W.
3542	1899, Oct. 30	*¶GOFF, JAMES CAUFEILD	Laurel Hill, Glenageary, Co. Dublin.
3685	1900, Oct. 30	*GOODBODY, FREDERICK ALLEN STURGE	33, Corn Street, Bristol.
3543	1899, Oct. 30	*¶GOODMAN, ALFRED	35, Bucklersbury, E.C.
956	1883, May 25	GORE, WILLIAM JOLL	205, Wardour Street, W.
1669	1889, Dec. 9	*GRANT, JOSEPH	Avisford, Upper Addiscombe Roa Croydon.
3229	1897, Oct. 26	*GRAY, HORACE NORMAN	334, Commercial Road, E.
2583	1893, Oct. 4	*GRAY, PERCY WILLIAM	29, St. Andrew's Street, Cambridge.
3096	1896, Oct. 28	*GREEN, ARTHUR EDWARD	49, Bedford Row, W.C.
1012	1883, Dec. 17	GREEN, JAMES HENRY TOWNSEND	22, Chancery Lane, W.C.
1418	1887, Dec. 19	*GREEN, THOMAS JOHN	13, King Street, Maidstone, Kent.
3097	1896, Oct. 28	*GREENFIELD, FREDERICK JAMES	Wood View, Innerbrook Rd., Cockingto Torquay, Devon.
1230	1884, Dec. 8	*GREENOP, EDWARD, A.R.I.B.A. ...	5, Quality Court, Chancery Lane, W.C
3230	1897, Oct. 26	*GREENWOOD, ERNEST	360, High Road, Chiswick, W.
2522	1892, Nov. 28	*GRIGGS, HENRY JENNER, A.R.I.B.A.	Metropolitan Bank Chambers, Newpor Monmouthshire.
1076	1884, Jan. 28	GRIMWADE, HENRY	Colchester, Essex.
3379	1898, Oct. 29	*¶GRIPPER, JOSEPH EDWARD ...	Pier Hotel Chambers, Herne Bay, Kent
3686	1900, Oct. 30	*GROVE, RICHARD THOMAS	St. Ives, Harpenden, Herts.
3625	1900, Feb. 23	*GURNEY, RONALD GEORGE	County Hall, Aylesbury, Bucks.
1231	1884, Dec. 8	*HALKYARD, WILLIAM REDFORD	Oakfield, Styal Rd., Wilmslow, Cheshir
3687	1900, Oct. 30	*HALL, AUGUSTUS WILLIAM	Valkyrie, Muswell Hill, N.
1179	1884, May 19	HALL, CHARLES PELL	Park Farm Office, Woburn, Beds.
3688	1900, Oct. 30	*HALL, CLEMENT ARTHUR	36, Gordon Place, Kensington, W.
3020	1896, Jan. 21	*HALL, FREDERICK WALTER... ...	Bailiffgate, Alnwick, Northumberland.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
3231	1897, Oct. 26	*Hall, Henry Alexander Thomas	26, Upper Leeson Street, Dublin.
3544	1899, Oct. 30	*Hall, John Sebastian	"Valkyrie," Muswell Hill, N.
2956	1895, Oct. 24	*Hall, Thomas Biddle	64, Church St., Rugeley, Staffordshire
3689	1900, Oct. 30	*¶Hancock, Henry Sydney, Jun	Sydney Place, St. Austell, Cornwall.
770	1882, Feb. 27	Hamilton, John Paynter	64 and 65, Coleman Street, E.C.
2957	1895, Oct. 24	*Hankey, Gilbert Lionel	80, Elm Park Gardens, S.W.
2525	1892, Nov. 28	*Hankinson, Francis Henry	Richmond Chambers, Bournemout Hants.
2675	1894, Oct. 30	*Hardiman, Harry	135, Mount Pleasant Road, Hasting Sussex.
1419	1887, Dec. 19	*Harding, Frederick Allcroft	44a, Wilton Rd., Victoria Station, S.W
2958	1895, Oct. 24	*Hardwick, Arthur Jessop	Eagle Chambers, Kingston-on-Thames.
3690	1900, Oct. 30	*Harlow, William Wyatt Ridgway	Urban District Offices, High Stre Grays, Essex.
614	1881, Feb. 21	Harper, Edgar Josiah	Estate Office, London County Counc Spring Gardens, S.W.
2959	1895, Oct. 24	*Harrison, Arthur	69 & 70, High Street, Stockton-on-Te Durham.
2960	1895, Oct. 24	*Harrison, Cyril H. Gilmore	Mentmore Estate Office, Ledbu Leighton Buzzard, Bucks.
3311	1898, Feb. 18	*Harrison, Henry Beauchamp	Draycot Gardens, Sutton Benger, Ch penham, Wilts.
3626	1900, Feb. 23	*¶Hartley, Tom Percy	Uffculme, Garlinge Rd., West Hampste N.W.
2961	1895, Oct. 24	*Harvey, Frederick Charles	Kenilworth, Jelfs Road, Ryde, Isle Wight.
3380	1898, Oct. 29	*¶Hassett, Reginald Charles	14, Dering Street, New Bond Street,
2585	1893, Oct. 4	*Hawes, Frederick Kirk	Longlands, Holkham, Norfolk.
3381	1898, Oct. 29	*Hawkins, John Frederick	8, Coleman Street, E.C.
3691	1900, Oct. 30	*¶Hawkins, Lancelot Goulder	Hill House, Tuesday Hill, King's Ly Norfolk.
2962	1895, Oct. 24	*Haywood, Samuel Spencer	Borough and Water Engineer's Off Municipal Offices, Darwen, Lancash
3234	1897, Oct. 26	*Head, William Alfred	Norfolk Lodge, Fentiman, Rd. Claph S.W.
3382	1898, Oct. 29	*Heal, Harold	52, Bell Street, Henley-on-Thames.
3692	1900, Oct. 30	*Heal, Herbert George	Sholing Lodge, Sholing, Southampt Hants.
3384	1898, Oct. 29	*Heath, Henry Cubitt	Kingsbridge House, Westcombe Pa S.E.
1287	1885, Dec. 7	*Hebblethwaite, Chas. Henry	10, Waterhouse St., Halifax, Yorkshi
1014	1883 Dec. 17	Hebden, George Radcliffe	8, Frederick's Place, Old Jewry, E.C
2678	1894, Oct. 30	*Heckford, Harley	Surveyors' Department, Vestry Hall, Road, E.C.
588	1880, Dec. 13	Hedger, Arthur Constantine	44, Charing Cross, S.W.

p. o.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
26	1892, Nov. 28	*†HELLICAR, GEORGE THOMAS ...	80, Osbaldeston Rd., Stoke Newington, N.
47	1896, June 2	*HEMPHILL, CHARLES GEORGE CATHCART	11, Ely Place, Dublin.
53	1887, Jan. 10	*HENDERSON, RICHARD	Portland Estate Office, Kilmarnock.
28	1883, Apr. 16	HENRY, EDWARD HUGH	62, High Street, Clapham, S.W.
36	1893, Oct. 4	*HEWETT, GEORGE THOMPSON ...	143, High Street, Guildford, Surrey.
50	1882, Dec. 18	HEWITT, WILLIAM...	Hampton Grange, Hereford.
8	1883, May 21	HICKS, STANLEY	29, Lincoln's Inn Fields, W.C.
3	1895, Oct. 24	*HICKS, WILLIAM ROOKE	Surveyor's Department, Public Buildings, Ealing, W.
3	1900, Oct. 30	*HIDER, SYDNEY WILLIAM	80, Upper Tollington Park, Stroud Green, N.
4	1900, Oct. 30	*HILLIARD, HUGH NEVILLE	Writtle, Chelmsford, Essex.
5	1883, Dec. 17	HINCHLIFFE, JOHN, JUN.	Bullhouse Hall, Penistone, Sheffield.
5	1899, Oct. 30	*HINCHSLIFF, EDWARD ROBERT ...	Barry Urban District Council, Council Office, Holton Road, Barry, Glamorganshire.
6	1899, Oct. 30	*HINDMARSH, MICHAEL ANSELM	Crag View, Alnwick, Northumberland.
5	1900, Oct. 30	*¶HINDMARSH, RALPH FREDERICK	69, Osborne Road, Newcastle-on-Tyne, Northumberland.
5	1898, Oct. 29	*¶HINKS, HENRY	23, Tavistock Road, Croydon.
6	1900, Oct. 30	*HIPSLEY, FREDERIC WILLIAM ...	Tanshelf, Park Road, Sutton Coldfield, Warwickshire.
	1898, Oct. 29	*HODGES, CECIL STUART	13, Park Street West, Luton, Beds.
	1890, Nov. 22	*HODGKINSON, JAMES HENRY ...	Park Villas, Ashton-under-Lyne.
	1896, Oct. 28	*HODGSON, ARCHIBALD SANFORD	Mickleham Cottage, Mickleham, near Dorking, Surrey.
	1883, Feb. 26	HOLBECHE, ÆMILIAN HENRY ...	92, Herrick Road, Loughborough, Leicestershire.
	1891, Nov. 4	*HOLLIS, HERBERT	Public Works Department, Jamaica.
	1891, Nov. 4	*HOLLIS, RALPH	Springfield, Skirlaugh, Hull, *Yorkshire*.
	1883, Jan. 29	HOLMES, JAMES THOMAS	97, Gresham Street, E.C.
	1894, Oct. 30	*HOLMES, JOHN EDWARD	309, Oxford Street, W.
	1896, Oct. 28	*HOMFRAY, HERBERT RICHARDS	20, Charles Street, Cardiff, Glamorganshire.
	1899, Oct. 30	*¶HOOLEY, ARTHUR JOHN	The College, All Saints, Derby.
	1900, Oct. 30	*¶HOOPER, ALFRED EGBERT ...	72, Hatfield Road, St. Albans, Herts.
	1884. May 19	HOOPER, ALFRED FREDERICK ...	1, Laura Villas, London Rd., Andover, Hants.
	1896, Oct. 28	*HOOPER, GERALD HUNTLY	Woodside, Accrington, Lancashire.
	1895, Oct. 24	*HORTON, WILLIAM PHELPS	119, Heath Street, Hampstead, N.W.
	1900, Oct. 30	*HOUGHTON, WILLIAM CHARLES ...	Pine Lodge, Whitehall Road, Woodford Green, Essex.
	1883, Jan. 15	HOWELL, ERNEST JOHN	116, Cromwell Road, S.W.

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† Special Sanitary Science Certificate.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
3699	1900, Oct. 30	*¶†Howes, Arthur Burnaby ...	193, High Road, Balham, S.W.
3549	1899, Oct. 30	*Howgrave-Graham, Alan Herbert	12, Willow Road, Hampstead, N.W..
3388	1898, Oct. 29	*Howgrave-Graham, George Ernest	9, Southampton St., Bloomsbury Sq.,
3236	1897, Oct. 26	*Howland, Arthur Frank ...	Rushymead, Coleshill, Amersham, B
3550	1899, Oct. 30	*¶Howland, George	Rushymead, Coleshill, Amersham, B
3389	1898, Oct. 29	*Hudson, Albert William... ...	42, Bishopsgate Street Within, E.C
3390	1898, Oct. 29	*Humphry, Martin George ...	Upfields, near Tamworth, Staffords
3551	1899, Oct. 30	*¶Hunt, George Whitaker ...	Madresfield, Malvern, Worcesters
3552	1899, Oct. 30	*Hurlbutt, Percival	Dee Cottage, near Flint, North Wa
3237	1897, Oct. 26	*Hutchins, Richard	Estate Office, Ardnagashel, Bantr Cork.
1893	1890, Nov. 22	*Innes, Gilbert Plantagenet Mitchell	29, Great George Street, S.W.
2681	1894, Oct. 30	*Irvine, Archibald Wyndham	P.O. Box 855, Johannesburg, Africa.
2682	1894, Oct. 30	*Jackson, Alfred Ernest	City Engineer's Office, Hull, York
2683	1894, Oct. 30	*Jackson, Edward Henry	Windermere Buildings, Wind Westmoreland.
2966	1895, Oct, 24	*Jackson, Leonard Labrey ...	Exchange Buildings, Bradford, Y
3391	1898, Oct. 29	*Jackson, Robert Ewan	Hall Gowan, Carnforth, Lancashi
2630	1894, Feb. 23	*Jarrett, Thomas William ...	124, East Street, Sittingbourne,
3238	1897, Oct. 26	*Jenkins, Richard James	Town Hall, Portsmouth, Hants.
550	1879, Nov. 24	Jessett, Charles...	3, Great St. Helen's, E.C.
2460	1891, Nov. 4	*Jessett, Chas. Edward Vernon	26, Sarsfeld Road, Balham, S.W.
2968	1895, Oct. 24	*John, Henry Bell	10, Meadow Hill Road, Tunbridg Kent.
3700	1900, Oct. 30	*Johnson, Frederick John ...	8, Ingram Road, East Finchley,
3239	1897, Oct. 26	*Johnson, Harry Labron	Ingleton, Earlstown Road, Cheshire.
3392	1898, Oct. 29	*¶Johnston, Reginald	50, Moorgate Street, E.C.
3701	1900, Oct. 30	*Jolly, Pearson Alexander ...	Apethorpe Estate Office, W Northamptonshire.

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† Special Sanitary Science Certificate.

ip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
702	1900, Oct. 30	*¶JONAS, HAROLD DRIVER	23, Pall Mall, S.W.
375	1887, Feb. 21	*JONAS, SAMUEL MARSHALL... ...	27, Market Hill, Cambridge.
703	1900, Oct. 30	*JONES, ARTHUR BAYLY	50, Threadneedle Street, E.C.
93	1898, Oct. 29	*JONES, JOHN ARTHUR	Works Department, H.M. Dockyard, Malta.
94	1898, Oct. 29	*JONES, PERCY EVERLEY	1, Prince's Street, Westminster, S.W.
53	1899, Oct. 30	*JONES, PHILIP VIVIAN	Wood View, Hengoed, via Cardiff.
18	1883, Dec. 17	JORDAN, GEORGE HENRY	7, Whitehall Place, S.W.
61	1891, Nov. 4	*JOYCE, HARRY WARD	Wood Street, Ashby-de-la-Zouch, Leicestershire.
23	1886, May 17	*JULL, WILLIAM VINCENT	8, Delahay Street, S.W.
94	1890, Nov. 22	*KAY, WALTER ROBERT	Athol Street, Douglas, Isle of Man.
04	1900, Oct. 30	*KAYE, HERBERT	Burnieside, Edgerton, Huddersfield, Yorkshire.
69	1895, Oct. 24	*KEAY, WILLIAM	6, Milstone Lane, Leicester.
37	1894, Oct. 30	*KEEP, WILLIAM HENRY	Victoria Park, Andover, Hants.
05	1900, Oct. 30	*KELLY, ARTHUR RALPH	5, Camden Square, N.W.
54	1899, Oct. 30	*KELLEY, GEORGE WILLIAM CALVER	Pembroke St., Appleby, Westmoreland.
06	1900, Oct. 30	*KEMSLEY, NORMAN BOLTON ...	41, Bishopsgate Street Within, E.C.
70	1895, Oct. 24	*KEMSLEY, WILLIAM HUGH	41, Bishopsgate Street Within, E.C., and Woodford Green, Essex.
00	1893, Oct. 4	*KENNETT, CHARLES ARTHUR ...	St. Lawrence, Clinton Crescent, Combermere Road, St. Leonards, Sussex.
77	1884, Jan. 28	KERR, ARTHUR HERBERT	Blake Street, York.
04	1896, Oct. 28	*KEY, ASTLEY COOPER	26, Upper Addison Gardens, Kensington, W.
1	1897, Oct. 26	*KIBBLEWHITE, HENRY JAMES TRELEAVEN	14, Grove Terrace, Highgate Road, N.W.
38	1894, Oct. 30	*KIESER, WILLIAM HENRY GUSTAV	City Engineer's Office, Bristol, Gloucestershire.
9	1894, Oct. 30	*KILLICK, ANTHONY EDWARD ...	29, Terminus Road, Eastbourne, Sussex.
5	1855, Oct, 29	*KINCAID, HERBERT EDWARD ...	7, Leinster Street, Dublin.
5	1899, Oct. 30	*KING, WALTER NIKE	9, Southgate, Wakefield, Yorkshire.
7	1887, Mar. 21	*KING, WILLIAM ISAAC	The Elms, Rickmansworth, Herts.
3	1899, Feb. 16	*¶KIRBY, EDMUND FRANCIS JOSEPH	5, Cook Street, Liverpool.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
3242	1897, Oct. 26	*KNATCHBULL, WYNDHAM PERSSE	Estate Office, Babington, Bath, Some shire.
3707	1900, Oct. 30	*KNIBB, FREDERICK CHARLES ...	30, Ingelow Road, Lavender Hill, S
2530	1892, Nov. 28	*¶KNIGHT, GEORGE EDWARD ...	2, West Chislehurst Park, Eltham,
3556	1899, Oct. 30	*KNOWLES, GEORGE POTTER	2, Coleman Street, E.C.
3557	1899, Oct. 30	*LAIRD, NINIAN P.	Kirby Muxloe, near Leicester.
3243	1897, Oct. 26	*LAKE, VIVIAN DAVEY	c/o. S. Pearson and Son, Seaham Ha Durham.
3558	1899, Oct. 30	*LAMPARD, SYDNEY MARTIN ...	69, Ship Street, Brighton, Sussex.
2973	1895, Oct. 24	*¶LAMPRILL, WILLIAM THOMAS ...	63, Broadway, Stratford, E.
3708	1900, Oct. 30	*LANHAM, LAURENCE	The Cottage, Dulwich Village, S.E
1969	1891, Jan. 17	*LANSDOWN, GEORGE ARTHUR ...	9, Regent Street, Waterloo Place,
2051	1891, Mar. 14	*LARKIN, RICHARD WEBSTER ...	53, Victoria Street, S.W.
3559	1899, Oct. 30	*¶LATHAM, ALBERT TUMMONS ...	5, Crowther Road, South Norwood
2974	1895, Oct. 24	*LAUMANN, MONTGOMERY PATRICK JOHN	Shute End, Wokingham, Berks.
3560	1899, Oct. 30	*LAURENCE, WALTER BERNARD ...	51, Eardley Crescent, Earl's Court
2494	1892, Feb. 26	*¶LAWLEY, FREDERICK WILLIAM	165, Strand, W.C.
3709	1900, Oct. 30	*LAWLEY, GEORGE FRANK	8, Windsor Place, Goldington Bedford.
3397	1898, Oct. 29	*LEAKE, ROBERT	"Holmleigh," Palace Gates Wood Green, N.
3106	1896, Oct. 28	*LEANE, WALTER BURDITT	c/o. Pauling & Co., P.O. Box 713 Town, South Africa.
3107	1896, Oct. 28	*LEE, FRANCIS BLACKLOCK	The White House, Brampton, Cumb
441	1876, Apr. 3	LEE, GEORGE CANSFIELD	36, The Mount, York.
3108	1896, Oct. 28	*LEE, HENRY	Victoria Chambers, Bank Plain, N Norfolk.
3161	1897, Feb. 17	*LEESE, VERNON FRANCIS	Brooklands Estate Office, Eas Weybridge, Surrey.
3770	1901, Feb. 21	*LEIGH, VINCENT STANLEY	316A, Mare Street, Hackney, N.E
3561	1899, Oct. 30	*LEMMOIN-CANNON, HENRY	3, Holland Road, Brixton, S.W.
1971	1891, Jan. 17	*LEWIS, ARTHUR LLEWELYN ...	45, St. John's Park, Blackheath,
3398	1898, Oct. 29	*LEWIS, JOHN	Worley Road, St. Albans, Herts.
3562	1899, Oct. 30	*LICKIS, LEONARD	13, Dorlcote Road, Wandsworth C S.W.
2691	1894, Oct. 30	*LIGHTFOOT, FRANCIS PRIDEAUX ...	Hafod Estate Office, Devil's R.S.O., Cardiganshire.
1143	1884, Apr. 21	LIGHTFOOT, JOHN GEORGE	9, Whitehall Place, S.W.
3710	1900, Oct. 30	*LISNEY, HARRY	Wilton House, Woodside Green,
2531	1892, Nov. 28	*LITTLE, HENRY	82, Queen Street, Cheapside, E.C

Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
1899, Oct. 30	*LITTLE, HUDSON	Rose Villa, Wigton Road, Carlisle, Cumberland.
1900, Oct. 30	*LIVING, CHARLES, JUN.	55, Broadway, Stratford, E.
1898, Oct. 29	*¶LLOYD, DONALD	17, Quay Street, Cardiff, Glamorganshire.
1899, Oct. 30	*LOFTHOUSE, ALBERT WILSON	24, Belmont Road, Harrogate, Yorkshire.
1897, Oct. 26	*LOMAX, ERNEST GEORGE	Parks Department, London County Council, 11, Regent Street, W.
1895, Oct. 24	*LOVEGROVE, CHARLES GRESHAM	Potter's Bar, Middlesex.
1887, Jan. 10	*LOWE, CHARLES ROBERT	30, Somerset Street, Portman Square, W.
1877, May 14	LUCAS, JOSEPH	21, Defoe Road, Tooting Graveney, S.W.
1896, Jan. 21	*LUCK GEORGE EDWARD	Oakmead, Crouch End, N.
1899, Oct. 30	*LUKE, JOHN, JUN.	66, Melton Road, Belgrave, Leicester.
1899, Oct. 30	*LUMLEY, EDWARD ADRIAN	22, St James's Street, S.W.
1898, Oct. 29	*LUMLEY, FREDERICK ROBERT	Testbourne House, Totton, Hants.
1884, May 26	LYNCH, JAMES HENRY	37, Norfolk Street, Strand, W.C.
1899, Oct. 30	*LYNES, HUMPHREY DOD	Garthmeilio, Corwen, North Wales.
1894, Oct. 30	*LYONS, EDWARD COLVILL	Estate Office, Briton Ferry, South Wales.
1884, Apr. 21	MCCALLUM, PETER SERVICE	Midland Railway, Derby.
1893, Oct. 4	*MACER, ALFRED THOMAS	39 Cheapside, E.C.
1898, Feb. 18	*MACKENZIE, HECTOR JOHN MAXWELL	Farmingwood Estate Office, Thrapstone, Northampton.
1900, Oct. 30	*MACKINTOSH, WILLIAM SMITH	11, Benet Street, Cambridge.
1900, Feb. 23	*MAGER, SYDNEY	28, Carlton Road, Tufnell Park, N.
1900, Oct. 30	*MAGGS, LEONARD	Ellerslie, Arlington Park Gardens, Gunnersbury, W.
1896, Oct. 28	*MALLINSON, CHARLES HERBERT	Market Place, Huddersfield, Yorkshire.
1894, Oct. 30	*MANN, FREDERICK CHARLES THOMAS	Woking, Surrey.
1897, Oct. 26	*MARCHANT, ROBERT CHARLES	York House, Chepstow, Monmouthshire.
1898, Oct. 29	*MARCUS, WILLIAM MORTIMER	20, Strathblaine Rd. New Wandsworth, S.W.
1893, Oct. 4	*MARRIOTT, CECIL WYNN	Newmarket, Cambridgeshire.
1896, Oct. 28	*MARTIN, ALEXANDER WILLIAM	Godfrey House, Godfrey Hill, Woolwich.
1900 Oct. 30	*¶MARTIN, JOHN PATTINSON	Cranleigh, Wyndham Road, Salisbury, Wilts.
1889, Dec. 9	*MASON, CHARLES WILLIAM HAYLEY	206, Marylebone Road, N.W.
1900, Oct. 30	*¶MATHER, JAMES	Strabane, Brodick, N.B.
1892, Nov. 28	*‡MAUGHAN, JOHN	Estate Office, Jervaulx Abbey, Middleham, R.S.O. Yorks.

‡ Special Forestry Certificate.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
2695	1894, Oct. 30	MAY, WILLIAM CHARLES	61, Melville Road, Walthamstow, E
3247	1897, Oct. 26	*MAYNE, CHARLES MILLARD ...	158, Earl's Court Road, S.W.
3571	1899, Oct. 30	*¶MEABY, THOMAS JAMES, JUN.	Canford, Wimborne, Dorset.
3402	1898, Oct. 29	*MEACHER, EDWARD ERNEST ...	Radnor Chambers, Cheriton H Folkestone, Kent.
3403	1898, Oct. 29	*MEACHER, SYDNEY GEORGE ...	South Collingham, Newark, Notts.
2597	1893, Oct. 4	*MELLOR, JAMES FREDERICK ...	110, St. James's Street, Brighton, Su
1447	1888, Jan. 23	*¶†MELROSE, FRANK	14, Queen Street, Cheapside, E.C.
2977	1895, Oct. 24	*MENMUIR, ROBERT WILLIAM ...	Coverdale, Hatfield Rd., Ipswich, Su
2535	1892, Nov. 28	*MENZIES, ROBERT...	Merton Estate Office, Thetford, No
3572	1899, Oct. 30	*MEREDITH, PERCY WILLIAM ...	3, Salters' Hall Court, Cannon S E.C.
1145	1884, Apr. 21	MERRETT, JAMES	9, Whitehall Place, S.W.
3573	1899, Oct. 30	*MERRICK, FREDERICK WALTER	Eden Bridge, Kent.
2536	1892, Nov. 28	*MEW, ROBERT HEATH...	The Limes, Redhill, Surrey.
3111	1896, Oct. 28	*MEYER, HORACE LEYCESTER ...	The Cottage, Clarendon Park, Sali Wilts.
3404	1898, Oct. 29	*MILBOURNE, JOHN SEYMOUR ...	Fairford, Gloucestershire.
2697	1894, Oct. 30	*MILLER, FREDERICK WILLIAM ...	"Newholme," Thornlaw Road, Norwood, S.E.
2537	1892, Nov. 28	*MILLER, GEORGE FREDERICK ...	Town Hall, Hastings, Sussex.
3716	1900, Oct. 30	*MILLS, ARTHUR ERNEST	72, Dundonald Road, Wimbledon,
752	1882, Feb. 13	MILNES, ROBERT	City Surveyor's Office, Guildhall,
2698	1894, Oct. 30	*MITCHELL, LEWIS	Peel Chambers, Bury, Lancashire..
3574	1899, Oct. 30	*MOAT, ERNEST WILLIAM	67, Kennington Oval, S.E.
3049	1896, June 2	*MOERAN, ARCHIBALD EDWARD...	Estate Office, Loughrea, Co. Galw
3494	1899, Feb. 16	*¶MOLYNEUX, FRANK EUSTACE ...	Oakhurst, Springfield Rd., Wallim
1973	1891, Jan. 17	*MOLYNEUX, HERBERT ERNEST ...	80, Cannon Street, E.C.
2598	1893, Oct. 4	*MONSON, HENRY JOHN	School of Agriculture, Gheezeh, Egypt.
3050	1896, June 2	*MOORE, HUGH ARMYTAGE	Crumlin, Co. Antrim.
3717	1900, Oct. 30	*MORLE, DENZIL ADAIR BARTLETT	102, Jermyn Street, S.W.
3405	1898, Oct. 29	*¶MORRIS, ARTHUR	The Firs, Whitley, Reading, Berk
2539	1892, Nov. 28	*MORRISH, HUGH KENNETH... ...	7, Commercial Arcade, Guersey.
2632	1894, Feb. 23	*MORRISON, DANIEL	41, John Dalton Street, Manchest
2599	1893, Oct. 4	*MORRISON, GERARD DONALD ...	High Street, Reigate, Surrey.
1678	1889, Dec. 9	*MUIR, JAMES	Birchlands, Byfleet, Surrey.
3406	1898, Oct. 29	*MULLETT, HENRY THOMAS	56, Talgarth Road, West Kensing
3575	1899, Oct. 30	*¶MUMBY, ELVIN FOWLER	War Office, Horse Guards, Wh S.W.

† Special Sanitary Science Certificate.

Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
1894, Oct. 30	*NEUBRONNER, HARRY ALFRED, A.R.I.B.A.	Penang, Straits Settlement.
1899, Oct. 30	*NEWMAN, HENRY ARTHUR	58, Savernake Road, Hampstead, N.W.
1900, Oct. 30	*NEWMAN, WALTER PHILIP	34, Solent Road, West Hampstead, N.W.
1894, Oct. 30	*NICHOLLS, EDWARD ALFRED	Royal Engineer Office, Trincomali, Ceylon.
1897, Feb. 17	*NICHOLSON, EBENEZER	105, Cheapside, E.C.
1898, Oct. 29	*NICHOLSON, GUY MURRAY	2, Old Queen Street, Westminster, S.W.
1896, Oct. 28	*NOBLE, EDMUND JAMES	26, Burns Street, Nottingham.
1889, Jan. 14	*¶NOCKOLDS, MARTIN CHARLES HUBERT	Saffron Walden, Essex.
1884, Mar. 10	NORRIS, EDWARD JAMES	Pinewood Grange, Camberley, Surrey.
1898, Oct. 29	*NUTTER, JOHN	Thorneycroft, Lancaster Rd, Morecambe
1896, Oct. 28	*¶OLDNALL, ROGER WILLIAM, B.A. (*Cantab.*)	The Sports Club, St. James's Square, S.W.
1898, Oct. 29	*ORCHARD, SIDNEY SAMUEL	Royal Engineer Office, Great Brook Street, Birmingham.
1898, Oct. 29	*¶ORWIN, CHARLES STEWART	Markbeech, Eden Bridge, Kent.
1896, Oct. 28	*OSBOURN, EDWARD	16, Victoria Street, S.W.
1892, Nov. 28	*OUVRY, PETER ARNOLD	The Salterns, Lymington, Hants.
1892, Nov. 28	*OVENDEN, CHARLES	Compton, Aldersmead Rd., Beckenham, Kent.
1897, Oct. 26	*PAICE, WILLIAM, JUN.	The Limes, Egham, Surrey.
1894, Oct. 30	*¶PAIN, WILLIAM HENRY	Carnarvon Estate Office, Bingham, Nottinghamshire.
1901, Feb. 21	*PALLISER, WILLIAM ARTHUR	Town Hall, East London, Cape Colony, South Africa.
1900, Oct. 30	*PARKER, FREDERIC WILLIAM	Parks Department, London County Council, 11, Regent Street, S.W.
1900, Oct. 30	*PARKER, HOWARD	The Laurels, Admaston, near Wellington, Shropshire.
1895, Oct. 24	*PARKS, WALTER	17, Holmesdale Gardens, Hastings, Sussex.
1897, Oct. 26	*PARNACOTT, ARTHUR CHARLES	The Ferns, Penge, S.E.
1899, Oct. 30	*PARRY, HERBERT MOSTYN	46, Franciscan Road, Tooting Bec Common, S.W.
1895, Oct. 24	*PAUL, JOHN WILLIAM	31, Bedford Row, W.C.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
402	1875, May 10	PAYNE, WILLIAM PERCY	Holmesdale, The Park, Nottingham.
3116	1896, Oct. 28	*PEARCE, CHARLES FREDERICK	65, Edgware Road, W.
3412	1898, Oct. 29	*PEARCE, DUDLEY FRANCIS	Pulloxhill, Ampthill, Bedfordshire.
3413	1898, Oct. 29	*PEARCE, FRANCIS ARTHUR	78, Blenheim Gardens, Willesden G N.W.
1146	1884, Apr. 21	PEARCE, FREDERICK WILLIAM	9, Whitehall Place, S.W.
3414	1898, Oct. 29	*PEASE, CHARLES EDWARD	Lancaster Lodge, Lauriston Wimbledon, S.W.
3252	1897, Oct. 26	*¶PEEBLES, PHILIP	Syon House, Brentford, Middlesex.
2634	1894, Feb. 23	*PEGGE, JOHN THOMAS	City Surveyor's Office, Durham.
3313	1898, Feb. 18	*PEPPERCORN, HENRY MCARTHUR	Larkfield, Maidstone, Kent.
3118	1896, Oct. 28	*PEPPERCORN, JOHN ARTHUR	Eaton Socon, St. Neots, Huntingdons
1898	1890, Nov. 22	*PERKINS, JOSEPH	Glencoe, Willows Road, Balsall H Birmingham.
3721	1900, Oct. 30	*PERKS, HUGH EARL	2, St. Paul's Square, Bedford.
1389	1887, Apr. 18	*PERKS, SYDNEY, A.R.I.B.A.	5 Crown Court, Cheapside, E.C.
3722	1900, Oct. 30	*PERRINS, GEORGE LATHAM	13, Cambridge Road, Lytham, Lancas
3579	1899, Oct. 30	*PETCH, JOHN STONEHOUSE	Estate Office, Wensley, Leyburn, R Yorkshire.
1021	1883, Dec. 17	PEWTRESS, HERBERT WILMSHURST	15, Cursitor Street, Chancery Lane,
1129	1884, Mar. 10	PHILLIPS, GEORGE CAWKWELL	Clarence St., Southend-on-Sea, Ess
2705	1894, Oct. 30	*PHILLIPS, FRANCIS JOHN	"Marmora," Hamlett Road, Sout on-Sea, Essex.
1079	1884, Jan. 28	PHILLIPS, JOHN HENRY	130, Mount Street, Berkeley Squar
1448	1888, Jan. 23	*PHILLIPS, WILLIAM DEARLOVE	High Wycombe, Bucks.
1342	1886, Dec. 6	*PHYSICK, WALTER FREDERICK	65, Edgware Road, W.
2982	1895, Oct. 24	*PIERCY, FREDERIC ONSLOW	The Elms, Lowthorpe, East Yorks
3254	1897, Oct. 26	*PINFOLD, FRANCIS ARTHUR	Estate Office, L. B. &. S. C. Ry., L Bridge Terminus, S.E.
3723	1900, Oct. 30	*PINSON, GILBERT	Cobden Buildings, Corporation S Birmingham.
3724	1900, Oct. 30	*PITT, PHILIP SEPTIMUS	53, Bateman Street, Cambridge.
3725	1900, Oct. 30	*PLANT, WILLIAM	Borough Engineer's Office, Barr Furness, Lancashire.
3726	1900, Oct. 30	*POLE, ALEXANDER CHARLES REGINALD	Care of Messrs. W. and L. Clare, 37 Terrace, Leeds, Yorkshire.
3580	1899, Oct. 30	*POTTER, SHIRLEY HERBERT	5, Douglas Mansions, West End Hampstead, N.W.
1343	1886, Dec. 6	*PRATER, THOMAS HERBERT	Lotherton Estate Office, Aberford Leeds, Yorkshire.
3628	1900, Feb. 23	*¶PRATT, FRANK PERCY	97, Gresham Street, E.C.
3314	1898, Feb. 18	*¶PRICE, CAPEL HEREWARD	89, St. Paul's Road, Camden N.W.

ip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
415	1898, Oct. 29	*Priestman, Alfred Tuke	Exchange Buildings, Bradford, Yorkshire.
629	1900, Feb. 23	*Protheroe, Alfred Ernest	67 and 68, Cheapside, E.C.
680	1889, Dec. 9	*Puckridge, Percival Martin	Milton Pewsey, Wilts.
985	1895, Oct. 24	*Pye, George Henry	Cherry Tree Cottage, Didsbury, Lancashire.
120	1896, Oct. 28	*Pyle, Benjamin Thomas Rice	29, Shrewsbury Villas, Plum Lane, Plumstead, Kent.
727	1900, Oct. 30	*¶Raffety, Harold Vezey	30, High Street, High Wycombe, Bucks.
89	1885, Dec. 7	*Rand, John	Elmfield, Esher, Surrey.
81	1899, Oct. 30	*Ransom, Thomas Reginald	59, Ritherdon Road, Upper Tooting, S.W.
16	1898, Oct. 29	*Rawstron, Charles Oliver	29B, High Street, Rotherham, Yorks.
09	1894, Oct. 30	*Read, Walter Herbert	8, The Avenue, Castle Hill, Ealing, W.
17	1898, Oct. 29	*Redfern Charles Frederick	33, Newhall Street, Birmingham.
18	1898, Oct. 29	*¶Reed, Richard George Gordon	Glen Devon, Addiscombe Road, Croydon.
82	1899, Oct. 30	*¶Reeve, Douglas William	"St. Moritz," Mulgrave Road, Sutton, Surrey.
83	1899, Oct. 30	*Richardson, Ernest Edward	23, Trinder Road, Crouch Hill, N.
15	1898, Feb. 18	*¶Richardson, James	
65	1897, Feb. 17	*Rickards, Robert Hillier Traherne Anson	Charles Street Chambers, Cardiff, Glamorganshire.
84	1899, Oct. 30	*Riddett, Maurice Charles	Town Hall Chambers, Ryde, Isle of Wight
23	1896, Oct. 28	*Rivers, Charles Edwin	Borough Surveyor's Office, Town Hall, Torquay, Devon.
19	1898, Oct. 29	*¶Robbins, Walter Francis	7, St. James's Street, S.W.
53	1882, Feb. 13	Roberts, Charles Gordon	42, New Broad Street, E.C.
28	1900, Oct. 30	*¶Roberts, John	Agricultural Department, University College of Wales, Bangor, North Wales.
10	1894, Oct. 30	*Roberts, Joseph William George	Yeovil, Somerset.
20	1898, Oct. 29	*Robertson, Henry Charles	Bolan House, Petworth St., Battersea Park, S.W.
24	1896, Oct. 28	*Robinson, John Brooke Wood	The Swan Inn, Preston Capes, Daventry, Northamptonshire.
29	1900, Oct. 30	*Robinson, Josslyn Alleyne	72, Pensbury Street, Darlington, Durham
03	1882, Apr. 24	Robinson, Martin Catlin	Wenden, Saffron Walden, Essex.
55	1897, Oct. 26	*Robinson, Ralph Eteson	29, Beacon Hill, Camden Road, N.
21	1898, Oct. 29	*Rogers, Percy Willben	78, Gloucester Rd., South Kensington, S.W.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
2986	1895, Oct. 24	*Rogers, Thomas George	Estate Offices, Railway Approach, Ar way Road, Highgate, N.
1130	1884, Mar. 10	Rose, Edward Joseph	58, Corn Market Street, Oxford.
1081	1884, Jan. 28	Ross, David James, A.M.I.C.E.	Surveyors' Office, Guildhall, E.C.
3586	1899, Oct. 30	*Rowlandson, Samuel Messiter	19, North Bailey, Durham.
1695	1890, Jan. 6	*Rowley, William Taylor	Royston, Hertfordshire.
1901	1890, Nov. 22	*Ruddle, Frank J.	London County Council, Spr Gardens, S.W.
3730	1900, Oct. 30	*Ruddle, Frederick Charles	Union Offices, Cardwell Place, Bla burn, Lancashire.
3772	1901, Feb. 21	*Rutley, Arthur Dennett	11, Dowgate Hill, E.C.
3587	1899, Oct. 30	*Rutter, Arthur Lionel, M.A. (*Cantab.*)	62, Sidney Street, Cambridge.
1024	1883, Dec. 17	Sabin, Joseph Henry (*Professional Associate of Council*)	7, Whitehall Place, S.W.
3257	1897, Oct. 26	*St. Aubyn, Belville Molesworth, B.A. (*Oxon.*)	Estate Office, Brooke, Isle of Wight.
2734	1895, Mar. 6	*Saise, Alfred John	Council Offices, Kingswood, near Bris
2604	1893, Oct. 4	*Saker, Sydney	95-97, Finsbury Pavement, E.C.
2605	1893, Oct. 4	*Sale, Arthur Reed	Viaduct Chambers, Carlisle, Cumberla
3258	1897, Oct. 26	*Salt, Harold Crossley, M.A. (*Cantab.*)	Milner Field, Bingley, Yorkshire.
1424	1887, Dec. 19	*Salt, Reginald Nowell	Quarry Place, Shrewsbury, Shropshi
3588	1899, Oct. 30	*¶Sanday, William Henry	15, Great George Street, S.W.
3589	1899, Oct. 30	*Sandell, Stanley Lunau	Belcaire, Widmore Road, Bromley, K
971	1883, May 25	*Satchell, Charles	Hazelmere, Alumhurst Rd., Bournemo Hants.
1728	1890, Feb. 10	*Satchell, Herbt. A., A.R.I.B.A.	3, Staple Inn, W.C.
3731	1900, Oct. 30	*¶Saunders, Edgar Walter	108, Stapleton Hall Road, Stroud Gr N.
2711	1894, Oct. 30	*Sawyer, John Ashton	62, High Street, Winchester, Hants.
1148	1884, Apr. 21	Scarlett, Harry	Preston House, Firle, Lewes, Sussex
3732	1900, Oct. 30	*Schofield, Peter	County Surveyor's Department, Cou Offices, Preston, Lancashire.
3422	1898, Oct. 29	*Scoble, Herbert Thomas	28, Victoria Street, S.W.
2712	1894, Oct. 30	*Scorer, Alfred George	Flaxmoor, Caston, Attleborough, Nor
3023	1896, Jan. 12	*¶Scrivener, John Charles	Ecclesbourne, Caterham Valley, Sur
3423	1898, Oct. 29	*Searle, Sydney	Hamilton House, Florence Rd., Ealing
2637	1894, Feb. 23	*Seddon, George Farquharson	24, Finsbury Square, E.C.
2468	1891, Nov. 4	*Sedgwick, Rupert William	38, High Street, Watford, Herts.

Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
1897, Oct. 26	*¶SEEL, ROBERT HAROLD	Theatre Royal Chambers, St. Mary Street, Cardiff.
1890, Feb. 10	*SELBY, FRANK	44, Chancery Lane, W.C.
1884, Dec. 8	*SELBY, JOHN BASELEY	Atherton Hall, Leigh, near Manchester.
1900, Oct. 30	*SELLER, FRANK RUSSELL	The Homestead, Dartford, Kent.
1880, Feb. 16	SEXBY, JOHN JAMES	London County Council, Spring Gardens, S.W.
1887, Dec. 19	*SHAW, ARTHUR	Ramsden Estate Offices, Railway Street, Huddersfield, Yorkshire.
1897, Oct. 26	*SHEARER, JAMES HUGHAN	49, Agate Road, The Grove, Hammersmith, W.
1898, Oct. 29	*¶SHELDON, HAROLD	Kinderton Street, Middlewich, Cheshire.
1884, Apr. 21	SHERRY, NATHANIEL	45, Fenchurch Street, E.C.
1900, Oct. 30	*SHETTLE, EDWARD GURNEY ...	Care of Messrs. Walton & Lee, 10, Mount Street, W.
1897, Oct. 26	*SHORNEY, ARTHUR SHEPHERD ...	The Priory Gateway, Great Malvern, Worcestershire.
1899, Oct. 30	*SIMPSON, JOHN HENRY	Woburn Experimental Farm, Aspley Guise, R.S.O. Beds.
1897, Oct. 26	*SIMPSON, LESLIE SHEPHERD ...	Foxglove House, Duffield, Derbyshire.
1894, Oct. 30	*SKEAT, ARTHUR PERCIVAL ...	Londonderry Hall, Dominica, British West Indies.
1882, Dec. 18	SKINGLE, ALFRED	29, Fleet Street, E.C.
1897, Feb. 17	*¶SKINGLE, ALFRED CHARLES ...	34, Josephine Avenue, Brixton, S.W.
1884, Jan. 14	SLADE, ISAAC	90 & 91, Queen Street, E.C.
1898, Oct. 29	*SMITH, ARTHUR PLUMBE	Gloucester Chambers, Chester.
1899, Oct. 30	*SMITH, DOUGLAS	Stanage Park Estate, Brampton Bryan Herefordshire.
1898, Oct. 29	*¶SMITH, GEORGE HENRY	1, Worcester Road, Wimbledon, S.W.
1891, Mar. 14	*SMITH, JAMES	Borough Surveyor's Office, Town Hall, Buckingham.
1899, Oct. 30	*¶SMITH, JOHN AMBROSE	The Dale, Tatton Park, Knutsford, Cheshire.
1895, Oct. 24	*SMITHELLS, EDWIN	Kenilworth, Newport Road, Stafford.
1890, Nov. 22	*SNAILUM, WALTER WADMAN ...	Church Street & Wingfield Road, Trowbridge, Wilts.
1897, Oct. 26	*SNOW, HENRY CYPRIAN	Friar Lane, Leicester.
1897, Oct. 26	*SOUTHCOMBE, JOHN CHARLES ...	8, Castle Street, Barnstaple, Devon.
1892, Feb. 26	*SOUTTER, ERNEST	The Paddocks, Guildford, Surrey.
1896, Oct. 28	*SPARROW, WILLIAM HUGH ...	Beckminster, Wolverhampton, Staffordshire.
1899, Feb. 16	*SPEAKMAN, JOHN McCLURE ...	The Hawthorns, Whalley Bridge, near Stockport, Cheshire.
1890, Nov. 22	*SPELMAN, WILLIAM WILTON RIX	St. Giles Street, Norwich, Norfolk.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
3268	1897, Oct. 26	*Stacey, Frederick Charles Webster	9, Carteret Street, Westminster, S.W
868	1883, Jan. 15	Stacey, William...	80, Cheapside, E.C.
1697	1890, Jan. 6	*Stainton, Francis Charles ...	18, Westmount Road, Eltham, S.E.
2608	1893, Oct. 4	*Staley, Albert Henry	Coton Road, Nuneaton, Warwickshir
3430	1898, Oct. 29	*Stallard, Harold Orlando ...	Church Farm, Great Thurlow, Suffolk
3431	1898, Oct. 29	*¶Stanton, Frederick William Shultheiss	c/o J. Mansergh, Esq., 5, Victoria St., S
3735	1900, Oct. 30	*Stead, Edward John	Bridgemaster's Department, Cou Offices, Preston, Lancashire.
710	1882, Jan. 16	Stevenson, Frederick J.... ..	Portland Office, Queen Anne Street,
3630	1900, Feb. 23	*¶Stimson, Edward Frederick	"Clovelly," Marshall's Road, Sut Surrey.
3270	1897, Oct. 26	*¶Stimson, Herbert Percy ...	2, New Kent Road, S.E.
3737	1900, Oct. 30	*Stockings, Arthur Perry ...	Rowan House, Windmill Lane, Walt Cross, Herts.
3271	1897, Oct. 26	*¶Stokes, Hugh Charles	49, Upper Baker Street, N.W.
3738	1900, Oct. 30	*Stone, Cyril Frank	1, Lonsdale Street, Carlisle, Cumberl
3272	1897, Oct. 26	*Stoneham, Edward Russell ...	Orchard House, Erith, Kent.
828	1882, Dec. 4	Stower, Joseph	43, Chancery Lane, W.C.
3133	1896, Oct. 28	*Straker, Howard	16, Water Lane, Great Tower St., E.
3739	1900, Oct. 30	*Strudwick, Frank Edward ...	32, Park Road, Bromley, Kent.
3134	1896, Oct. 28	*Stubbing, Richard Webb ...	37, Queen Victoria Street, E.C.
1578	1889, Feb. 11	*Stucké, Wm. Henry, A.R.I.B.A.	P.O. Box 2271, Johannesburgh, and Box 91, Bloemfontein, O.R.C., S Africa.
2716	1894, Oct. 30	*Stupart, Charles Walter ...	70, Somerset Road, Tottenham, N.
1235	1884, Dec. 8	*Sturge, Theodore	33, Corn Street, Bristol, Gloucesters
1296	1886, Jan. 11	*Sturgess, John Moore	Penshurst Park, near Tunbridge, K and 30, Craven Street, Strand, W
1708	1890, Jan. 27	*Sturley, Arthur Dyson	35, Norfolk Street, Strand, W.C.
1978	1891, Jan. 17	*Summerfield, Joseph Charles	73, Chelsea Gardens, S.W.
3594	1899, Oct. 30	*Sutcliffe, James Henry	Hazelwood, Hebden Bridge, Yorksh
3433	1898, Oct. 29	*Swan, Harold	114, Trinity Road, Upper Tooting, S
3273	1897, Oct. 26	*¶Swanwick, Bruce, M.A.(*Oxon.*)	Royal Agricultural College Farm, C cester.
3595	1899, Oct. 30	*Tait, Frank Vincent	31, Pepper Street, Chester.
3135	1896, Oct. 28	*¶Tate, Joseph George	Welbeck, Worksop, Notts.
3274	1897, Oct. 26	*Taylor, John Francis White ...	Messrs. Humbert, Son, & Flint, Wat Herts.
3740	1900, Oct. 30	*Taylor, William Henry	Nuttall, Nottingham.

Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
1899, Oct. 30	*¶Terry, Francis William	Hawthorn Villa, The Mount, York.
1899, Oct. 30	*Terry, Frank Treacher	8, Hopton Road, Streatham, S.W.
1894, Oct 30	*Tewson, Leonard	80, Cheapside, E.C.
1892, Nov. 28	*Thomas, Edward Morgan Dawson	Tyrch Quarries Company, Clynderwen, R.S.O., Pembrokeshire.
1899, Oct. 30	*Thomas, George	50, Chelsea Gardens, S.W.
1898, Oct. 29	*Thomas, William James Edgar	21, Tresillian Terrace, Cardiff, Glamorganshire.
1883, Dec. 17	Thompson, Alfred	Estate Department, South Eastern Railway, London Bridge, S.E.
1894, Oct. 30	*Thompson, Claude William George Hugh	Gladstone Estate Office, Skipton-in-Craven, Yorkshire.
1893, Oct. 4	*Thompson, Frederick Hubert	Breadsall Lodge, near Derby.
1897, Oct. 26	*Thompson, Harold Stuart	30, Waterloo Street, Birmingham.
1894, Oct. 30	*Thompson, Joseph Atherden	50, Lincoln's Inn Fields, W.C.
1895, Mar. 6	*¶Thompson, Roland O'Brien	399, Oxford Street, W.
1900, Oct. 30	*Thorold, James Ernest	The Estate Office, Syston Park, Grantham, Lincolnshire.
1884, Feb. 11	Thurgood, Ernest Charles	Estate Office, 98, High St., Lewisham, S.E.
1899, Oct. 30	*Thurgood, Leonard Fielder	"Armadale," Cross Lanes, Woking, Surrey.
1900, Oct. 30	*Tiffin, Thomas Edward, A.M.I.C.E.	Deputy Borough Engineer, Municipal Buildings, West Hartlepool, Durham.
1899, Oct. 30	*Tighe, Arthur	55, Durlston Road, Upper Clapton, N.
1888, Dec. 10	*Tilly, Hubert Douglas	50, High Street, Maidenhead, Berks.
1900, Oct. 30	*Timbrell, Alan	Egremont, Tavistock, Devon.
1900, Oct. 30	*Tonson-Rye, John Reginald	Mount Pleasant, Wooton Wawen, near Birmingham.
1896, Oct. 28	*Town, Henry Annandale	20, Eslington Terrace, Newcastle-on-Tyne.
1900, Oct. 30	*Townly, Ronald Starkey	Estates Agency Offices, 13, High Road, Willesden Green, N.W.
1891, Jan. 17	*Townsend, George James	London County Council, 40, Craven Street, Strand, W.C.
1897, Oct. 26	*Treharne, Alfred Frederick Aldridge	45, Lincoln's Inn Fields, W.C.
1898, Oct. 29	*¶Tremlett, Walter William	Estate Office, Uffington, Stamford, Lincolnshire.
1898, Oct. 29	*¶Trent, William Edward	39, Lombard Street, E.C.
897, Oct. 26	*Turner, Benjamin Franklin	South Eastern Agricultural College, Wye, Kent.
1897, Oct. 26	*Turner, Drysdale	Cheshire Agricultural and Horticultural School, Holmes Chapel, Cheshire.
1899, Oct. 30	*Turner, Henry	4, Dorset Street, Preston, Lancashire.
1897, Oct. 26	*Turner, Herbert	Slade House, Pencisly Road, Canton, Cardiff.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
1394	1887, May 23	*Turner, Percy	Dale Hall, Henley Rd., Ipswich, Suff
3746	1900, Oct. 30	*Turner, Vincent...	City Waterworks Office, Town H Wakefield, Yorkshire.
2612	1893, Oct. 4	*Tyler, William	Estate Department, L. & N. W. Euston Station, N.W.
3602	1899, Oct. 30	*¶Type, Marcus Oswald	101, Trafalgar Rd, Moseley, Birmingh
1168	1884, May 5	Udny, Augustus Charles... ...	142, Springfield Road, Brighton, Sus
1596	1889, Feb. 25	*Vale, Henry	Darlington Street, Wolverhampton, fordshire
3280	1897, Oct. 26	*Veit, Leonard James...	Borough Engineer's Office, Town Barrow-in-Furness, Lancashire.
2551	1892, Nov. 28	*Venning, Alfred John Meybohm M.A. (*Oxon.*)	26, Ker Street, Devonport, Devon.
1907	1890, Nov. 22	*Verity, Ernest George	51, Golden Square, W.
3748	1900, Oct. 30	*¶Wacher, Thomas Blake... ...	2, Ethelbert Road, Canterbury, Ken
1464	1888, Feb. 20	*Wade, Henry	10, Pitt Street, Barnsley, Yorkshire
1699	1890, Jan. 6	*Wain, George Sparrow	8 and 9, Essex Street, Strand, W.C.
2995	1895, Oct. 24	*Waldram, Percy John	17, Buckingham St., Charing Cross,
576	1880, Mar. 1	Walker, Leon Victor	79, Dunsmure Road, Stamford Hill,
3024	1896, Jan. 21	*¶Walker, William Selves ...	22, Moorgate Street, E.C.
3749	1900, Oct. 30	*Walsh, Frederick Leopold Morfee	37, Tierney Road, Streatham Hill, S
3750	1900, Oct. 30	*Walter, Thomas James	Gervis Place, Bournemouth, Hants.
3281	1897, Oct. 26	*Walton, Edgar Thomas	11, Cotherstone Rd., Brixton Hill, S
3751	1900, Oct. 30	*Walton, Leon Maitland	"Ingleside," Manor Way, Bexley, K
3438	1898, Oct. 29	*Ward, Martin Hammond ...	Netherlee Farm, Gateacre, near Li pool.
3439	1898, Oct. 29	*Waring, Holt	Waringstown, Co. Down, Ireland.
3137	1896, Oct. 28	*Warran, William Ernest ...	4, Bruce Villas, Mount Pleasant, tenham, N.
3282	1897, Oct. 26	*Warwick, George Ernest ...	83, Hollybank Road, Drumcondra, D
1030	1883, Dec. 17	Waterer, Clarence	Dover House, Chertsey, Surrey.
3283	1897, Oct. 26	*¶Waterfield, Horace Clare ...	Cobham, Surrey.
3752	1900, Oct. 30	*Waters, Frank	Tower Chambers, Opie Street, Nor Norfolk.

Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
1891, Jan. 17	*Watson, Claude Henry	"Sunnyside," Woolsington, Newcastle-on-Tyne.
1899, Oct. 30	*¶Watson, David Alexander	Estate Office, Shirburn, Wallingford.
1890, Feb. 24	Watson, George	Parliament Mansions, Victoria St., S.W.
1893, Oct. 4	*Watson William James	13, Pembroke Square, Kensington, W.
1898, Oct. 29	*Weall, John Graham	Rutland Lodge, Watford, Herts.
1892, Nov. 28	*Weatherhead, David Wilkinson	50, Low Street, Keighley, Yorkshire.
1900, Oct. 30	*Weatherill, George Ford	Estate Office, Farnley, Otley, Yorkshire.
1897, Oct. 26	*Weatheritt, James	8, Searles Road, Old Kent Road, S.E.
1896, Oct. 28	*Weaver, Henry Percival Francis	Lye, Stourbridge, Worcestershire.
1888, Dec. 10	*Webb, Frederic Noel	Babraham, Cambridge.
1899, Oct. 30	*Webber, Henry Stanton	2, Hyde Gardens, Eastbourne, Sussex.
1898, Oct. 29	*Weekes, Cyril Swaffer	100, Beaufort Street, S.W.
1898, Feb. 18	*Weir, James Scott	Borough Engineer's Office, Town Hall, Halifax, Yorkshire.
1883, Dec. 17	*Wells, Edward Ogbourn	9, Whitehall Place, S.W.
1898, Oct. 29	*¶Welsh, Hugh	Dalzell Estate Office, Motherwell, N.B.
1899, Oct. 30	*¶West, Herbert James	Mount Carron, Hainhault Rd., Leytonstone, E.
1900, Oct. 30	*West, Sidney Herbert	47, Mount Avenue, Ealing, W.
1883, Apr. 16	Weston, George	177, Harrow Road, Paddington, W.
1883, Apr. 30	Weston, Joseph Aurelius	83, High Street, Bedford.
1900, Oct. 30	*Wetenhall, Edward Box, A.R.I.B..A	27, Fitzroy Street, Fitzroy Square, W.
1900, Oct. 30	*Whatley, Ernest James	Messrs. Morris, Sons, & Peard, North Curry, Taunton, Somersetshire.
1887, Dec. 19	*Wheeler, Charles Trevor Ogle	Amesbury Abbey, Salisbury, Wilts.
1900, Oct. 30	*Wheldon, Martin Lowish	26, Portland Street, York.
1900, Oct. 30	*White, Benjamin William	15, 16, & 17, Eldon Street, E.C.
1895, Oct. 24	*White, Walter Ernest Coates	Manor Farm, Beedon, Newbury, Berks.
1896, Jan. 21	*White, William, Jun.	35, Westgate Rd., Newcastle-upon-Tyne, Northumberland.
1899, Oct. 30	*Whiteley, Cyprian Charles Oswald	82, Queen Street, E.C.
1900, Oct. 30	*Whitten, George Jackson	12, Deer Park, Tenby, Pembrokeshire.
1899, Oct. 30	*¶Wigley, Sidney Prudden	Winslow, Bucks.
1897, Feb. 17	*Wigram, Henry Joseph	The Manor, Collingham, Newark, Notts.
1896, Jan. 21	*¶Wilde, Sidney Algernon	29, Kingswood Road, Clapham Park, S.W.
1899, Oct. 30	*¶Wilkinson, Percy Newton	34, Upper Baker Street, N.W.
1891, May 23	*Wilks, Ernest Stringer	Douglas Avenue, Hythe, Kent.
1899, Oct. 30	*¶Williams, Arthur Codrington	Moor Court Farm, Sparsholt, Winchester, Hants.
1897, Oct. 26	*Williams, Daniel Smith	Mountain Ash Urban District Council Offices, Abercynon, South Wales.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	Address.
3444	1898, Oct. 29	*Williams, Peter Lloyd Armstrong	26a, Albert Bridge Rd., Battersea,
3760	1900, Oct. 30	*¶Williams, Richard Ernest Havard	2, Warwick Court, High Hol W.C.
442	1876, Apr. 3	Williams, William Welsby	Farnham, Surrey.
3140	1896, Oct. 28	*¶Willoughby, Charles Albert	22, Chancery Lane, W.C.
1083	1884, Jan. 28	Willoughby, Charles William	22, Chancery Lane, W.C.
2472	1891, Nov. 4	*Wilson, James Calvert	Worsthorne Estate Office, Bun Lancashire.
3446	1898, Oct. 29	*Wilson, John	Langham Hall, Colchester.
2555	1892, Nov. 28	*Wilson, John Hayes	10, Upstall Street, Camberwell, S.E
1449	1888, Jan. 23	*Wilson, William Edward	St. Andrew's Chambers, Albert Sq Manchester.
3286	1897, Oct. 26	*Wilton, James Percy	Agricultural College, Aspatria, Car Cumberland.
3611	1899, Oct. 30	*Witham, James Bernard	203, Temple Chambers, 33, Braze Street, Manchester.
3429	1898, Oct. 29	*¶Wontner-Smith, Percy	Grasmere, Hendon Lane, Finchley,
3317	1898, Feb. 18	*¶Wood, John Edward	The Cedars, Sunbury, Middlesex.
3613	1899, Oct. 30	*Woodcock, Frank Sydney	Cranbrook, Underhill Road, Dulwich, S.E.
1358	1887, Jan. 10	*Woolnough, John William	6, Vicarage Drive, Eastbourne, Sus
3168	1897, Feb. 17	*Woolnough, Tom	Fleet House, Hoppers Road, Winch Middlesex.
3142	1896, Oct. 28	*Wordsworth, Christopher	Brooklands, South Godstone, Surre
1431	1887, Dec. 19	*Worthington, James Scott	4, Frederick's Place, E.C.
3288	1897, Oct. 26	*Wright, Ernest Beresford Fitzherbert	Staunton Grange, Orston, Notts.
2725	1894, Oct. 30	*Wright, Philip Chetwood	Brattleby Hall, near Lincoln.
595	1880, Dec. 13	Wright, Thomas Hawkins	The Hermitage, Thrapston, Northan
3614	1899, Oct. 30	*Wright, Thomas Henry	"Hawkhurst," Terrapin Road, Tooting, S.W.
3615	1899, Oct. 30	*Wrightson, John Frederick Hutton	College of Agriculture, Downton,
2726	1894, Oct. 30	*Wyatt, Archibald	The Jungle, Porchester, Hants.
3616	1899, Oct. 30	*Yewdall, Francis Edward	3, Mount Ararat Road, Rich Surrey.
3449	1898, Oct. 29	*Young, James Dawbarn	Woodlands, North Hill, Highgate,
3761	1900, Oct. 30	*Young, Kenneth James	51, Coleman Street, E.C.
2999	1895, Oct. 24	*Young, William	Oakdene, Harpenden, Herts.

Total number of Professional Asoociates, 791.

Associates.

Date of Election.	ASSOCIATES.	Address.
1897, Oct. 26	Adkins, William Ryland Dent	2, Temple Gardens, E.C.
1876, Nov. 27	Alverstone, The Right Honourable Lord, G.C.M.G., Lord Chief Justice of England *(Associate of Council).*	Hornton Lodge, Pitt Street, Kensington, W.
1880, Dec. 13	Bankes, John Eldon, K.C.	3, Hare Court, Temple, E.C.
1888, May 14	Barnes, George Frederick	London County Council, Spring Gardens, S.W.
1899, Oct. 30	Barry, Charles Edward	Parliament Mansions, Victoria Street, Westminster, S.W.
1868, July 27	Barry, Sir John Wolfe, K.C.B., M.I.C.E. *(Associate of Council)*	21, Delahay Street, S.W.
1879, Feb. 3	Beale, James Samuel	28, Great George Street, S.W.
1892, Feb. 26	Bellewes, George Oliver	45, Parliament Street, S.W.
1900, Oct. 30	Berkeley, Rowland Thomas Mortimer, B.A. *(Cantab.)*	Temple Gardens, Temple, E.C., and 72, Belgrave Road, S.W.
1899, Feb. 16	Blackshaw, John Frank	The Midland Dairy Institute, Kingston Fields, Derby.
1890, Jan. 6	Boulger, George Edward Simonds	34, Argyll Mansions, Addison Bridge, W.
1868, June 23	Bramwell, Sir Fredk. Joseph, Bart., F.R.S., M.I.C.E.	5, Great George Street, S.W.
1884, Feb. 11	Bund, John W. Willis	15, Old Square, Lincoln's Inn, W.C.
1890, May 29	Cadell, George	28, Chalmers Street, Edinburgh, and The National Club, 1, Whitehall Gardens, S.W.
1871, Feb. 13	Castle, Edward James, K.C.	8, King's Bench Walk, Temple, E.C.
1891, Jan. 17	Clarke, Sir Ernest	13, Hanover Square, W.
1883, Dec. 17	Clarke, Sir Edward, K.C.	2, Essex Court, Temple, E.C.
1883, Dec. 17	Clode, Walter	3, Harcourt Buildings, Temple, E.C.

Date of Election.	ASSOCIATES.	Address.
1886, Dec. 6	Clutton, Hubert Spencer ...	9, Whitehall Place, S.W.
1894, Oct. 30	Colam, Robert Frederick ...	4, Essex Court, Temple, E.C.
1900, Feb. 23	Courthope-Munroe, Harry, M.A. *(Cantab.)*	Palace Chambers, 9 Bridge Street, We minster, S.W.
1896, Jan. 21	Coward, John Charles Lewis	3, Pump Court, Temple, E.C.
1891, Nov. 4	Cowlard, Christopher Lethbridge, K.C.	Launceston, Cornwall.
1885, Jan. 12	Cripps, Charles Alfred, K.C., M.P.	1, Essex Court, Temple, E.C.
1900, Feb. 23	Danckwerts, William Otto Adolph Julius, K.C.	7, New Court, Carey Street, W.C.
1898, Oct. 29	Downie, Alex. Francis Mackenzie	Alton, Hants.
1892, Nov. 28	Emden, T. Walter L.	105 and 106, Strand, W.C.
1886, Jan. 11	Fream, William	Downton, Wilts.
1878, Feb. 11	Freeman, Geo. Mallows, K.C. ...	Palace Chambers, 9, Bridge Street, S and 11, King's Bench Walk, Temple,
1878, Mar. 11	Freshfield, Edwin	5, Bank Buildings, E.C.
1876, Mar. 20	Freshfield, William Dawes ...	5, Bank Buildings, E.C.
1890, Feb. 24	Gayton, Charles	Much Hadham, near Ware, Herts.
1879, Apr. 28	Gepp, Chas. Bramston Osborne	Chelmsford, Essex.
1895, Mar. 6	Glen, Reginald Cunningham ...	1, New Court, Temple, E.C.
1899, Feb. 16	Graham, William Vaux	5, Queen Anne's Gate, S.W.
1874, Jan. 5	Grantham, Richard Fuge, M.I.C.E.	Northumberland Chambers, Northum land Avenue, W.C.
1882, Mar. 27	Hamilton, Henry Best Hans ...	1, Brick Court, Temple, E.C.
1884, May 5	Hamond, Thomas Astley Horace	Manor House, Swaffam, Norfolk.
1897, Oct. 26	Hill, John Smith, B.A., B.Sc. *(Lond.)*	The Agricultural College, Aspatria, berland.
1887, Jan. 24	Hudson, Alfred Arthur	5, Paper Buildings, Temple, E.C.

Date f Election.	ASSOCIATES.	Address.
887, May 23	KINCH, EDWARD	Royal Agricultural College, Cirencester.
896, Oct. 28	KING, WALTER GEORGE...	The Old College, Dulwich, S.E.
873, Apr. 21	KING, WILLIAM, M.I.C.E.	Gas Office, Duke Street, Liverpool.
891, Nov. 4	LEWORTHY, JOHN HENRY	29, Fleet Street, E.C.
874, Feb. 16	LITTLER, RALPH DANIEL MAKINSON, K.C., C.B.	6, Pump Court, Temple, E.C.
888, Mar. 5	LUARD, MAJOR-GEN. CHARLES EDWARD, R.E.	Ightham Knoll, near Sevenoaks, Kent.
891, May 23	MALDEN, WALTER JAMES	Agricultural College, Uckfield, Sussex.
900, Oct. 30	MARCHANT, JAMES ROBERT VERNAM, M.A. (*Oxon*)	5, Paper Buildings, Temple, E.C.
874, Feb. 16	MARRIOTT, THE RIGHT HON. SIR WILLIAM THACKERAY, K.C. ...	6, Crown Office Row, Temple, E.C.
886, Dec. 6	MARSHALL, FREDERICK, K.C. ...	3, Harcourt Buildings, Temple, E.C.
891, Nov. 4	MENCE, PHILLIP ALLAN...	Banstead House, Fontenoy Road, Balham, S.W.
895, Oct. 24	MILLES, CHARLES WILLIAM	8, Whitehall Place, S.W.
888, Nov. 12	MOULTON, JOHN FLETCHER, K.C., M.P.	11, King's Bench Walk, Temple, E.C.
00, Oct. 30	MUNSEY, THOMAS HENSMAN ...	St. James's Vestry Hall, Piccadilly, W.
95, Oct. 24	PAIN, ARTHUR CADLICK, M.I.C.E...	17, Victoria Street, S.W.
94, Feb. 23	PINCHES, EDWARD EWIN	5, Essex Court, Temple, and 1, Nevern Road, South Kensington, S.W.
88, Mar. 19	POLLARD, EDWARD HUTCHINSON ...	3, Elm Court, Temple, E.C.
84, Feb. 11	POPE, SAMUEL, K.C.	38, Parliament Street, S.W.
94, Oct. 30	REDMAN, JOSEPH HAWORTH... ...	2, New Court, Lincoln's Inn, W.C.
88, Nov. 9	REES, JOHN CHARLES	5, Victoria Street, S.W.
96, June 2	RICHARDS, HENRY CHARLES, K.C., M.P.	2, Mitre Court Buildings, Temple, E.C.
5, Jan. 26	RICKARDS, ARTHUR GEORGE, K.C., M.A. (*Oxon.*)	Palace Chambers, 9, Bridge Street, S.W., and 11, King's Bench Walk, Temple, E.C.
2, Jan. 16	RIGG, HERBERT ADDINGTON... ...	41 Parliament Street, S.W.
5, Oct. 24	RUSSELL, CHARLES ALFRED	2, Harcourt Buildings, Temple, E.C.
3, April 2	RYDE, WALTER CRANLEY	1, Brick Court, Temple, E.C.
4, Dec. 8	SCOTT, THE HON. HENRY ROBERT	Belvoir Castle, Grantham, Lincolnshire.
9, Feb. 11	SETH-SMITH, ARCHIBALD	Silvermere, Cobham, Surrey.

Date of Election.	ASSOCIATES.	Address.
1888, Apr. 30	Seth-Smith, Frederick	The Lodge,UptonGray,Winchfield,Ha
3773, Feb. 21	Smith, John Edward	Town Hall, Westminster, S.W.
1896, Jan. 21	Somerville, William, M.A., D.SC.	University of Cambridge.
1884, Jan. 14	Statham, William Arnold	23, Abingdon Street, S.W., and King's Bench Walk, Temple, E.C.
1882, Jan. 16	Stephens, Pembroke S., K.C.	1, Plowden Buildings, Temple, E.C.
1875, Jan. 4	Strutt, The Hon. Frederick	Milford House, Derby.
1896, Jan. 21	Stutfield, Alfred Robert Ogilvie	The Bedford Estate Office, Bloomsbu
1877, Dec. 10	Sutton, Henry	Farrar's Building, Temple, E.C.
1899, Feb. 16	Terry, George Percy Warner	Town Hall, Caxton Street, Westmin S.W.
1891, Nov. 4	Thomas, George James	London County Council, 40, Crave W.C.
1880, Dec. 13	Thomas Hubert	Watford, Herts.
1899, Oct. 30	Vaughan, Edward Joseph	2, Mitre Court Buildings, Temple,
1891, Mar. 14	Veasey, Thomas Frederick	5, Copthall Buildings, E.C.
1885, May 18	Warren, Reginald Augustus	99, Great Russell Street, W.C.
1884, May 26	Wells, Alfred Dodd	Sinodun, Wallingford, Berks.
1886, May 17	Wheeler, Thomas Whittenbury, K.C.	1, King's Bench Walk, Temple, E.
1876, Dec. 18	Will, John Shiress, K.C.	Palace Chambers, 9, Bridge Street and 2, Garden Court, Temple, E
1875, May 15	Winckworth, Lewis	31, Abingdon Street, S.W.
1870, Jan. 10	Wing, Thomas Twining	Upper Hale, Farnham, Surrey.
1890, Nov. 22	Wrightson, John	College of Agriculture, Downton,

Total number of Associates, 87.

Colonial Fellows.

Date of Election.	COLONIAL FELLOWS.	Address.
1898, Feb. 18	Aiyar, Anathandapuram Vaithcanatha Ramachandra	Department of Public Works, Vellore, Madras, India.
1893, Oct. 4	Anderson, Charles Wilgress	Government Land Department, Georgetown, Demerara, British Guiana.
1899, Oct. 30	Baker, William Anthony	Surveyor-General's Office, Kingston, Jamaica, B.W.I.
1896, Oct. 28	Baty, Sebert Conrad Elton	Victoria, Mahé, Seychelles, Mauritius.
1893, Oct. 4	Bowen, Ernest Francis Sinderby	Public Works Department, Barbadoes, West Indies.
1896, Oct. 28	Clancey, John Charles	Assistant Director of Land Records and Agriculture, New Public Buildings, Rangoon, Burma, India, and 7, Grafton Square, Clapham Common, S.W.
1896, Oct. 28	Cooper, John Ashley	Surveyor's Office, Cooper's Hill, Castries, St. Lucia, B.W.I.
A. 1889, Jan. 14 F. 1889, Nov. 25 C.F. 1899, July 6	Hodge, Leonard Percival	St. Leonards, Queen's Rd., Kingston Hill, Surrey, and Public Works Department, George Town, British Guiana.
1896, June 2	McGahan, Amos Harvey	Gordon Town, P.O., Jamaica, B.W.I.
1894, Feb. 23	Miller, William	Nassau, Bahamas, West Indies.
1898, Oct. 29	Rogers, Colin Percy	5, St. Lukes' Road, Bayswater, W.
1897, Feb. 17	Usher, Charles Richard	Belize, British Hondurus.

Total number of Colonial Fellows 12.

Students.

Enrolled.	STUDENTS.	Address.
1901	Abrahams, Jack Trevor	45, Warrington Cresent, Maida Val
1899	Adams, Lawrence Haynes	6, Bank Buildings, Burgess Hill, S
1898	Allen, Fred Tregarthen	12, Gilmore Road, Lewisham, S.E.
1899	Allen, Leslie Herbert	12, Springfield Gardens, Upper Cla
1901	Allen, Oliver Wylie	8, Frederick's Place, Old Jewry, E.
1900	Allsopp, Benjamin Geo. Kidstone	49, Madeley Road, Ealing, W.
1899	Anderson, Henry	City Engineers Office, Norwich.
1901	Andrews, Ronald Seymour	83, Kingston Road, Oxford.
1901	Appleton, Ernest Ralph	The Gables, Eaglescliffe, R.S.O.,Du
1900	Ashbridge, Prentice Moore	Southweald, Grove Park, Wanstea
1900	Ashten, Arthur Ward	16, Salop Road, Oswestry.
1900	Attlee, Hugh Guthrie	Combmartin, Upper Tooting, S.W.
1900	Barclay, Robert Herman	41, High Street, Clapham, S.W.
1899	Bare, Arnold Edwin	64, Lebanon Gardens, West Hill, W worth, S.W.
1901	Baker, Frank Leslie	Emery House, Bishop's Stortford,
1899	Barker, Charles Russell	9, Holland Park, W.
1899	Barker, Herbert Graham	2, St. Paul's Square, Bedford.
1900	Barton, Sydney Frederick	Forest View, The Drive, Waltha Essex.
1900	Bastable, John Daniel	45, Albert Road, Morecambe, Lancashire.
1901	Bayly, Edwin Goodenough	Beechcroft, Berkhampstead, Hert
1901	Beaven, Howard Clifford	Doddinghurst, Essex Road, Enfiel
1901	Bedford, Reginald Lewis Joshua	Murivance, Horn Lane, Acton, W
1900	Bell, Robert Salkeld	Standing Stone, Wigton, Cumber
1901	Bennett, Reginald Henry Wapshott	20, Kenilworth Avenue, Wimblebo S.W.
1899	Benson, John Ingham	College of Agriculture, Downton,
1901	Benton, Charles Edward	Heck House, Grimsby, Lincolnshi
1900	Berrie, Vero Laverton	Tamworth, Bickersteth Road, T S.W.
1901	Berry, Cyril John	Burton House, Bolingbroke Wandsworth Common, S.W.

Enrolled.	STUDENTS.	Address.
1900	Blaber, Montague	Southdown Road, Shoreham, Sussex.
1899	Blake, Alfred Norman	Maisonnette, Willis Rd., Gosport, Hants.
1900	Bliss, Theodore Stephen	Middleton Park, Near Bicester, Oxon.
1901	Blois, Basil Frederic	Hurlingham, East Cliff, Bournemouth, Hants.
1901	Bowler, Lionel Victor	Green Bank, York Road, Southend, Essex.
1901	Bowler, Thomas Howard	The Precincts, Canterbury, Kent.
1899	Boyton, Bertram Alfred	The Retreat, Church Row, Fulham, S.W.
1898	Bradley, Cecil Gustav	Borough Engineers Office, Town Hall, Barrow-in-Furness
1899	Brealey, Reginald Woodhouse	Rose Bank, Leek, Staffordshire.
1898	Brent, Thomas	51, Station Road, Redhill, Surrey.
1897	Broad, Sydney Lowther	13, Bengal Road, Ilford, Essex.
1900	Bromley, Robert Cecil	17, Wolseley Road, Crouch End, N.
1901	Brown, Horace	42, Southgate, Chichester, Hants.
1901	Brown, William Ernest	33, Parkgate Road, Chester.
1898	Browne, Eustace Montague	12, Gordan Mansions, Francis Street, W.C.
1899	Browning, Sydney	c/o Messrs. Bruton, Knowles, & Co., Albion Chambers, Gloucester.
1900	Budgett, Walter Henry	6, Balfour Terrace, Squires Lane, Church End, Finchley, N.
1901	Bulteel, Alan Hillersden	Charlestown, St. Austell, Cornwall.
1901	Burch, Herbert	66, Cromwell Avenue, Highgate, N.W.
1901	Burgess, Edward Cecil	127, Fordwych, Road, West Hampstead, N.W.
1901	Burstow, Ralph Henry	9, Cobden Place, Hailsham, Sussex.
1901	Campbell, Charles Ralph	14, Gledhow Gardens, South Kensington, S.W.
1901	Carlisle, William Joseph	c/o Canon Fleming, Pitt Street, Gloucester.
1899	Carter, William John	55, Old Steine, Brighton.
1900	Carpenter, Laurence	The Agricultural Cottage, Aspatria, Cumberland.
1898	Caton, Thomas Linfield	82, Acre lane, Brixton, S.W.
1901	Chapple, John Graddon	95, Mill Hill Road, Acton, W.
1901	Chard, Arthur	Thorverton, Devon.
1900	Childe, George Malcolm	38, The Avenue, Kew Gardens, Surrey.
1898	Chilwell, Charles Vyvyan	6, Weymouth Street, W.
1899	Clark, Cuthbert Harvey	18, Palace Gardens Mansions, W.

Enrolled.	STUDENTS.	Address.
1901	Clarke Alfred Howard	Ashbourne, The Drive, Walthamstow.
1901	Clemens, William Cecil	187, Union Street, Plymouth, Devon.
1899	Clements, Cyril John...	North Street, Southminster, Essex.
1900	Coates, Laurence Calvert ...	"Homefield," Thurlow Park Road, We Dulwich, S.E.
1901	Cobb, Charles Stanley	Strathfieldsaye, Hampshire.
1900	Cobb, Henry Frederick	Mockbeggar, Higham, near Rochester
1900	Coker, Ralph Hector	140, East Dulwich Grove, Dulwich, S.
1899	Cole, Herbert Covington	Greta House, Regent's Park Roa Finchley, N.
1900	Collyer, Charles Alexander Stewart	Estate Office, Ockham, Ripley, Surrey
1898	Cook, Cecil Newton	Care of G. Unwin, Esq., Lopcroft Ha Bungay, Suffolk
1900	Cooke, Robert Tyers	Junction Road, Belgrave Gate, Leicest
1901	Cooper, Howard	Dashwood, Gravesend, Kent.
1901	Culpin, Harold John	74, Grosvenor Park Road, Hoe Stre Walthamstow, Essex.
1900	Cutler, Harold Arthur	Derwent Bank, Addiscombe Road, Croydon.
1899	Daniell, Frederick Stanley ...	13, Lexden Road, Colchester, Essex.
1898	Dann, Thomas	Gwynant, Overcliffe, Gravesend, Kent
1901	Darby, Harold	Ivor House, Manor Street, Bridlingt Yorkshire.
1900	Darley, Robert Bradshaw ...	Carrick-on-Shannon, Co. Leitrim, Irelan
1900	Davies, Alan Cowell	c/o A. F. Grain, Shelford, Cambridge.
1901	Davies, William Gwynne Batchelor	Penner House, Newbridge, near Newpo Mon.
1900	Dawson, Roland Eric...	Colonial College, Hollesley Bay, Suffo
1901	Dean, Edward Harold	Town Hall, Eccles, Lancashire.
1899	Densham, John Boon	Olden Lodge, Purley, Surrey.
1899	Dinwiddy, Conrad Hugh	12, Croom's Hill, Greenwich, S.E.
1901	Dorrington, Arthur Chatterton	41, West Road, Lancaster.
1900	Drake, Frank Arthur	Boulderwood, Woking, Surrey.
1901	Dugdale, William Marshall ...	Llwyn, Llanfyllin, Oswestry, Shropshi
1901	Edwards, Spencer	30, Park Road, Polsloe Road, Exet Devon.
1901	Eggar, Charles	10, West Street, Farnham, Surrey.

Enrolled.	STUDENTS.	Address.
1899	Eldridge, Douglas Howard ...	"The Rhespas," Mount View Road, Crouch Hill, N.
1901	Ellen, Frederick Charles Groome...	Eastfield House, Andover, Hants.
1900	Ellis, Percy Harry	Claremont Villa, Claremont Rd., Morecambe, Lancashire.
1901	Ellis, Rae Adam	The Warren, Wanstead, N.E.
1901	Evans, Charles Stokes Eaton ...	Avallenau, Haverfordwest, S. Wales.
1900	Evans, Geoffrey Charles... ...	Caldwell, Nuneaton, Warwickshire.
1900	Fairlie, Edward	Colonial College, Hollesley Bay, Suffolk.
1899	Farmer, Stewart Frank Haywood	98, New Street, Birmingham.
1901	Fenning, John Henry	Fairfield, Ashburnham Road, Bedford.
1901	Ferris, George William	Clifton Villas, Maida Hill, W.
1901	Finch, George Frederick ...	7, Crouch Hall Road, Crouch End, N.
1901	Flatt, John Alexander	Norman House, Blake Hall Road, Wanstead, N.E.
1898	Fletcher, Frederic	Myddelton Lodge, Whetstone, N.
1900	Fleuret, Alfred Harman	12, Hawthorn Dene, Castlenau, Barnes, S.W.
1901	Foulis, Archibald Keith	Roselea, Orchard Street, Motherwell, N.B.
1899	Francis, Ronald Garnham ...	South Eastern Agricultural College, Wye, Kent.
1898	French, Cecil George	32, Bedford Road, East Finchley, N.
1901	Frost, Ernest Leonard	164, Croydon Road Anerley, S.E.
1899	Gahan, Robert Beresford ...	6, Rostrevor Terrace, Rathgar, Dublin.
1898	Gairdner, Kenneth Graeme ...	24, West Hill, Highgate, N.
1901	Gale, Harold James	Benson, Wallingford, Berks.
1898	Gimson, Allen	2, Wordsworth Mansions, Queen's Club Gardens, West Kensington, W.
1898	Glasier, Edward Brougham ...	Edgecombe Hall, Wimbledon Park, S.W.
1900	Glasier, Mortimer Sackville	Edgecombe Hall, Wimbledon Park, S.W.
1901	Glasson, Thomas M.	The Agricultural College, Aspatria, Cumberland.
1900	Gleed, Percival Francis	Flodden House, Flodden Road, S.E.

Enrolled.	STUDENTS.	Address.
1901	GLOAG, TOM KEEPING	36, Vardens Road, Clapham Junctio S.W.
1900	GODDING, FRANK HORATIO	69, East India Road, Poplar, E.
1899	GOFF, JOHN TALBOT	College of Agriculture, Downton, Wilt
1900	GOODWIN, PERCY WORTHINGTON...	The Agricultural College, Aspatr Cumberland.
1900	GOTELEE, GUY STANLEY...	High Towers, Selborne Rd., E. Croydo
1901	GREENWOOD, OLIVER	Wood Lea, Todmorden, Lancashire.
1901	GREGORY, PERCY WALTER... ...	44, Haverstock Hill, N.W.
1901	GRIERSON, JOHN CAMPBELL ...	27, Newsham Drive, Liverpo Lancashire.
1900	GRIPPER, JOHN BELL	Lyndhurst, Woking, Surrey.
1901	HAES, ERNEST MOUNT	7, Grove Road, Surbiton, Surrey.
1900	HALL, MONTAGUE PRESTON	5, Wedderburn Road, Hampstead, N.
1901	HALL, VERNON MANNING	5, Wedderburn Road, Hampstead, N.
1899	HANSON, HAROLD	Holmwood, Edgerton, Huddersfield.
1899	HARDY, HAROLD CROFT	8, Morella Road, Wandsworth Comm S.W.
1900	HARLAND, HENRY CHAPMAN ...	Montrose Estates Office, Catter Ho Drymen, N.B.
1901	HARRIS, EDWARD CHARLES ...	Hazeldene, Upper Tooting Park, S.W
1898	HARRISON, CECIL PRYCE	Caerhowel, Montgomeryshire.
1898	HARRISON, ERNEST...	"Westbrook," Bolton-le-Sands, n Carnforth, Lancashire.
1899	HARTLEY, RONALD	The College of Agriculture, Aspat Carlisle.
1901	HASLEHUST, ERIC THOMASSET ...	Claverley, Finchley, N.
1901	HAWKINS, EDWARD ROBINSON ...	Downham Market, Norfolk.
1901	HAYWARD, JOSEPH...	Bereton, Claremont Road, Bath, Somer shire.
1900	HEATHCOTT, ROBERT	West Horderns, Chapel-en-le-Frith, byshire.
1900	HELLARD, WILFRED BETTESWORTH	Lynwood, Teddington.
1901	HENDERSON, GEOFFREY STEELE ...	St. Margaret's, Kilmarnock, N.B.
1899	HEWETT, RICHARD	Whitelane Farm, Seale, near Farn Surrey.
1901	HINTON, HERBERT ARTHUR... ...	Belvedere, Shepherd's Hill, Highgat
1900	HOBBS, LANGLEY	Kelmscott, near Lechlade, Oxford.

Enrolled.	STUDENTS.	Address.
1898	HODGE, ROBERT THOMAS	Kelvin, Cottenham Park, Wimbledon, Surrey.
1900	HOLBECHE, NIGEL LAURENCE ...	21, Bennett's Hill, Birmingham.
1899	HOLBECHE, ROBERT CECIL	21, Bennett's Hill, Birmingham.
1901	HONEY, ROBERT LLEWELLYN ...	5, Gordon Terrace, Rochester, Kent.
1901	HOOPER, STANLEY	95, Cecil Road, Upton Manor, E.
1899	HOPKIN, PHILIP LEWIS	James Street, Pontardawe, near Swansea, South Wales.
1901	HORSFIELD, JOHN NIXON, JUNR....	11, Penrhyn Road, Kingston-on-Thames.
1901	HOW, HERBERT	8, Ladbroke Square, Notting Hill Gate, W.
1900	HOWARD, CHARLES STAVELEY ...	Glenavon, Alum Chine, Bournemouth, Hants.
1901	HOWARD, EDMUND	Stafford House, Grove Road, Snaresbrook, Essex.
1898	HUDSON, CHARLES JAMES	Armley House, Bridlington Quay, Yorks.
1898	HUNT, HARRY	71, Parliament Hill, N.W.
1900	INGRAM, JAMES FRANCIS	29, Vernon Terrace, Brighton, Sussex.
1899	INSLEY, GEORGE PITRON	Old Studley House, Wimborne Road, Bournemouth, Hants.
1901	IVES, ERNEST EDWARD VICTOR...	4, Denmark Terrace, Mundesley Road, North Walsham, Norfolk.
1899	JACKSON, RICHARD STEPHENS ...	117, High Street, Sittingbourne, Kent.
1899	JAMES, REGINALD CHARLES... ...	"Trereiffe," Ringwood Road, Poole, Dorsetshire.
1901	JARVIS, ERNEST CORY	33, Louisville Road, Upper Tooting, S.W.
1899	JARVIS, WM. HOWARD RIGDEN ...	West Tarring, Worthing, Sussex.
1899	JEFFERY, FRANCIS WILSON	77, St. Helen's Road, Hastings, Sussex.
1899	JOHNSON, ARTHUR WILLIAM ...	High Beech, Avenue Gardens, Acton, W.
1900	JOHNSON, RICHARD LESLIE PITT	4, Lambridge, Bath.
1900	JOHNSON, WILLIAM INGLIS	14, Barn Hill, Stamford, Lincolnshire.
1900	JONAS, ROBERT COLLIER	23, Pall Mall, S.W.
1900	KELLY, FRANCIS RICHARD	The College of Agriculture, Downton, Wilts.

Enrolled.	STUDENTS.	Address.
1898	Kemp, Philip Reginald	33, Brackenbury Road, Preston, Lancs.
1900	Kent, Philip	Rhos-Fynanch, Rhos-on-Sea, Colwyn Bay, North Wales.
1901	King, Stanley Bernard	Waverley, Albert Park, Abingdon, Berks.
1900	Knight, Frederick William	Darley, Cottenham Park, Wimbledon S.W.
1899	Lake, Ralph Julian	Heage House, Crouch Hill, N.
1901	Lamble, William Herbert	14, Chichester Street, Paddington, W.
1900	Lang, Frederick Bartlett	Glengariff, Greenbank, Plymouth, Devon
1900	Laverton, William King	Glenburn, St. Brannock's Road, Ilfracombe, Devon.
1899	Leach, Harold Minton	32, Upper Richmond Road, East Putney S.W.
1899	Lees, Randle Burslam	99, Antrobus St., Congleton, Cheshire.
1900	Lloyd, Lewis Hodgens	3, Elder Avenue, Weston Park, Crouc End, N.
1901	Lucas, John Clay	Castle Precincts, Lewes, Sussex.
1901	Lyddon, Alfred J.	38, Desborough Road, Plymouth, Devon
1901	Lyon, Michael Lewis	315, Fulham Road, S.W.
1900	Madge, Wilfrid	Messrs. Beadel, Wood, & Co., 97, Gresha Street, E.C.
1899	Martin, Trice	109, West Street, Farnham, Surrey.
1901	Matley, James	491, Ashton Road, Oldham, Lancs.
1901	McSheehy, John Edward Gerard	23, Denmark Avenue, Wimbledon, S.W
1901	Meacher, Edmond	Messrs. Rawlence & Squarey, Salisbur Wilts.
1900	Miles, Cecil Lomer	22, Parkhill Road, Hampstead, N.W.
1900	Minors, Ernest	Borough Engineer's Office, Town Ha Wolverhampton.
1900	Mitchell, Harold Hastings	2, North Parade, Winchcombe Stree Cheltenham.
1900	Moore, Richard Charles	72, Amhurst Park, Stamford Hill, N.
1900	Morris, John Stanley	Chirbury, Shropshire.
1898	Moss, Charles Percy	58, Ashley Road, Crouch Hill, N.
1900	Mullins, Patrick William	54, Patshull Road, Camden Town, N.W
1900	Mundell, Joseph Edward	"Litton," Longfleet, Poole, Dorset.

Enrolled.	STUDENTS.	Address.
1901	MYOTT, CECIL MCCLELLAN	6, St. Andrew's Street, Cambridge.
1900	MYTTON, PHILIP ALDRED	Garth, Welshpool, Montgomeryshire.
1901	NAYLOR, JOHN STUART...	Edenthorpe, Beckenham, Kent.
1899	NEATE, ARTHUR WHISTLER	Speenhamland, Newbury, Berks.
1899	NEAME, FREDERICK IVO	Macknade, Faversham, Kent.
1901	NETTELTON, OSCAR TRAVES... ...	47, St. Mary Abbotts Terrace, Kensington, W.
1901	NOAKES, ARTHUR O.	96, Blenheim Gardens, Willesden Green, N.W.
1900	ORCHARD, ALFRED DEAN	11, Wood Street, Ashby-de-la-Zouch.
1901	OWEN, HARRY BERTRAM	Lonsdale Villa, Florence Street, Newcastle, Staffordshire.
1899	PARNWELL, SYDNEY ARTHUR ...	9, Firsby Road, Stamford Hill, N.
1900	PARROTT, HUGH FRANCIS VIVIAN	The Thorne, Hayes, Middlesex.
1899	PARSONS, MAURICE HARRY DONNE	Rosemount, Exeter, Devon.
1900	PARSONS, MEREFIELD DONNE ...	Rosemount, Exeter, Devon.
1900	PATTISSON, WILLIAM HENRY MUNNINGS	Pelican House, Witham, Essex.
1900	PAUL, FRANCIS	c/o Gaskell and Co., Stevenage, Herts.
1900	PAVITT, HAROLD WILLIAM	Tarrangower, Willesden Lane, Brondesbury, N.W.
1901	PAYNE, JOHN OSWALD	The New Farm, Bromley, Kent.
1900	PECK, HOWARD	Colonial College, Hollesley Bay, Suffolk.
1901	PEILE, CHARLES FREDERICK ...	Southampton Lodge, Oakleigh Park, Whetstone, N.
1901	PEPLER, GEORGE LIONEL	Lynton, Haling Park Road, Croydon.
1899	PERKIN, DAN WARD	Gulworthy, Tavistock, Devon.
1899	PERKINS, CHARLES FEARNALL ...	Englehome, Sea Road, Boscombe, Hants.
1901	PICKERSGILL, ARTHUR PERCY ...	2, Cambalt Road, Putney Hill, S.W.
1900	POOLE, HERBERT HENRY	67, Addison Road, Kensington, W.
1901	POPE, EDWARD THOMAS FREDERIC	Athelstan House, Margate, Kent.
1900	PORTER, DOUGLAS DAVID	27, Belsize Square, Hampstead, N.W.
1900	PRIEST, ALBERT	The Home Office, Whitehall, S.W.

Enrolled.	STUDENTS.	Address.
1900	RAWLENCE, DUNCAN ALFRED ...	Newlands, Salisbury, Wilts.
1899	REANEY, HAROLD DE LISLE... ...	24, Ranelagh Road, Ealing, W.
1899	REED, CHARLES CECIL	Beeford Grange, Beeford, nr. Hull, Yorks.
1899	REED, EDWARD	Downlands, Rottingdean, Sussex.
1898	RICHARDSON, HAROLD THOMAS ...	52, Southbrook Road, Lee, S.E.
1899	RIPPENGAL, ARTHUR HENRY ...	19, Cameron Road, Croydon.
1901	ROSS, PERCY HAVERY	37, Mercers Road, Holloway, N.
1899	ROWLANDSON, GEO. ARMSTRONG	Mossgill House, Crossby Garrett, Kirkby Stephen, Westmoreland.
1901	RULE, THOMAS	The Agricultural College, Aspatria, Cumberland.
1900	RUMSBY, WALTER SAMUEL... ...	Ennisfall, King's Road, Lansdowne Park, Bournemouth, Hants.
1899	RUSSELL, HUMPHREY GLADSTONE	Boconnor, Benhil Street, Sutton, Surrey
1899	SACKETT, SIDNEY RUPERT	Wingfield House, Orsett, Essex.
1901	SALWEY, ARTHUR	The Cedars, Broxbourne, Herts.
1901	SANSOM, WILLIE STANLEY VENN ...	71, East Hill, Colchester, Essex.
1901	SCAMMELL, THOMAS EDWARD ...	56, Lower Redland Rd., Redland, Bristol
1899	SCOLLICK, ERNEST ARTHUR... ...	3, Church Road Villas, Burgess Hill, Sussex.
1900	SEALE, PERCY JAMES	Manor Farm, Bidborough, Kent.
1901	SHARDLOW, JOHN JAMES	Narborough Road, Leicester.
1900	SHEDLOCK, NORMAN GEORGE ...	13, Waldeck Road, Ealing, W.
1900	SHEPHARD, JOSEPH ERNEST... ...	21, Grange Road, Canonbury, N.
1901	SHIELD, ARTHUR JOHN	Oakhurst, Cressington Park, Liverpool.
1898	SHONE, LEIGHTON EDWARD... ...	Woodhouses, Whitchurch, Salop.
1899	SHORT, HERBERT DOUGLAS... ...	10, Waterloo Place, S.W.
1901	SKELT, FREDERICK MITCHELL ...	62, Bulwer Road, Leytonstone, N.E.
1900	SLOMAN, ROBERT MORTIMER ...	Ivy Bank, West Norwood, S.E.
1899	SMALLMAN, HENRY RICHARD GEORGE STRONG...	Carlton House, Herne Hill, S.E.
1899	SMITH, DOUGLAS HENRY	7, Marine Avenue, Westcliff, Southend-on-Sea, Essex.
1898	SMITH, QUENTIN CULLEN	Sunnyside, Muswell Hill, N.
1899	SMITH, STANLEY ADDISON	"Sunnyside," Monkseaton, Newcastle-on-Tyne.
1901	SMITH, SIDNEY WILLIAM	The Limes, Aubery Ride, Cheshunt, Herts.
1899	SMITH, WARWICK HUGHESDON ...	93, St. Mary Street, Cardiff, Glamorganshire.
1901	SMITH, WILLIAM BOULTON ...	37, Factory Road, Hinckley, Leicestershire.

Enrolled.	STUDENTS.	Address.
1899	Smyth, Thomas William	82, High Street, Barnstaple, Devon.
1898	Soper, Harold	Winfield, Wilbury Avenue, Hove.
1900	Steere, Edward Cecil	11, Grosvenor Road, Richmond, Surrey.
1899	Stephens, John Kyle	Ardshane, Holywood, Co. Down.
1901	Steward, Clifford Thomas	65, Courtfield Gardens, S.W.
1901	Stewart, Nigel Desmond	The College of Agriculture, Downton, Wilts.
1899	Stone, Frederic	Tonedale Farm, Wellington, Somersetshire.
1898	Sweetman, Gerald Drysdale	8, Prince of Wales Place, Canichers, Guernsey.
1900	Symes, William Charles	7, Bideford Mansions, Rosebery Avenue, E.C.
1900	Tate, Henry Tindall	25, Otley St., Skipton-in-Craven, Yorks.
1900	Tayler, Vivian Alfred	23, Lansdowne Road, East Croydon.
1900	Taylor, Edwin Thurlow	Ashlyn, Ansdell, Lytham, Lancashire.
1899	Temple, Edgar Guy	Fraser House, Margery Park Road, Forest Gate, E.
1900	Thornton, Arthur Bruce	Bawdsey Estate Office, Suffolk.
1900	Tillyard, Sidney Joseph	43, Thorpe Road, Norwich, Norfolk.
1901	Tivendale, Thomas	34, Park Lane, Stoke Newington, N.
1900	Tomlin, William, Jun.	Hollydene, Alpha Rd., Birchington, Kent.
1898	Turner, Jabez Tennyson	27, Grove Road, Wanstead, Essex.
1901	Turner, Sydney George	23, Earl's Court Gardens, S.W.
1901	Unsworth, Cedric Walter	113, George Street, Altrincham, Cheshire.
1900	Utterton, Frank Le Couteur	19, St. Anne's Cresent, Lewes, Sussex.
1900	Vernon, Eustace Nigel Maule	The Agricultural College, Aspatria, Cumberland.
1900	Vickerman, Montagu Harold	Radnor Lodge, Wembley, Middlesex.
1901	Vigers, Astley Allen	The Hurst, Hersham, Walton-on-Thames.
1901	Voisey, Percy Deering	22, Melbourne Street, Exeter, Devon.

Enrolled.	STUDENTS.	Address.
1900	Walder, William Searcy	62, Wellesley Road, West Croydon.
1898	Walker, Gilbert Russell	The Chestnuts, Long Ashton, Somerset
1900	Walker, James William Boyd	Wilby Hall, Attleborough, Norfolk.
1900	Walker, Wilfrid Arthur	Long Ashton, Clifton, Bristol.
1901	Wall, Irving	Brookfield, Cambridge Road, Hudder field, Yorkshire.
1901	Walter, Sydney James	Ecclesbourne, New Wanstead, E.
1900	Ward, Edward John	8, Havelock Terrace, Stoke, Devonport
1899	Watt, Alexander Lindsay	Muncaster Estate Office, Ravenglas Carnforth, Lancashire.
1901	Wells, Arthur Harvey	Hillside, Ashby-de-la-Zouch, Leicest shire.
1899	Westlake, William John Walter	40, Derby Terrace, West Croydon.
1899	Wheatley, Mervyn James	High Street, Poole, Dorsetshire.
1898	Wheeler, Francis West	189, Fulham Road, S.W.
1901	White, Arthur Vivian	The Poplars, North End, Portsmout Hants.
1899	White, John William Edden	4, Calverley Terrace, Tunbridge Wells Kent.
1900	Whitehead, Thomas Gustavus	10, South Grove, Tunbridge Wel Kent.
1901	Whitton, Harold William	Caswell, near Towcester, Northampto shire.
1899	Whytehead, John Layard	The Vicarage, Warminster, Wilts.
1901	Wightman, William Osborne	York Lodge, Warham Road, Sou Croydon.
1900	Wigley, Herbert Henry	Winslow, Bucks.
1901	Wilkinson, Hubert William	Highfield House, Winchmore Hill, N.
1901	Williams, Harold	Eridge House, Chichester Road, Croyd
1900	Willmot, Arthur Charles	Melrose, Southbank Road, Kenilwor Warwickshire.
1901	Wood, Harold	Bridge House, Grimsby, Lincolnshire.
1899	Wood, John Guy	South Eastern Agricultural Colle Wye, Kent.
1901	Woodbridge, Ernest Edward	Cartref, Roxborough Park, Harrow- the-Hill.
1901	Woodhams, James Percy	50, Havelock Road, Hastings, Sussex.
1900	Woolley, William Edward	Charnwood, Wilton Rd, Salisbury, Wi
1901	Worrall, Bertram	Crimsworth, Whalley Range, Manches
1901	Wykes, Herbert Ivie	42, Elms Road, Clapham Common, S.

Enrolled.	STUDENTS.	Address.
1899	YOUNG, CHARLES ALEXANDER ...	167, Brixton Road, S.W.
1901	YOUNG, HERBERT OSWALD	Eversley, Egerton Park, Rock Ferry, Cheshire.

Total Number of Students, 309.

SUMMARY.

Honorary Members	16
Fellows...	1897
Professional Associates	791
Associates	87
Colonial Fellows	12
Students	309
Total	3112

NOTE.—To ensure the regular transmission of the Papers and Notices, it is particularly requested that any changes of address be communicated at once to the Secretary.

Members of the Institution who have passed the Fellowship Examination.

** Those to whose names a star is affixed have passed the Fellowship Examination, but have not yet been transferred to the Class.*

1893	Abrams, Benjamin Percy.
1901	*Addie, John Heathcote.
1900	Addiscott, Henry Hugh.
1888	Adkin, Benaiah Whitley (*Special Sanitary Science Certificate*, 1893).
1897	Allen, Percy.
1901	*Allsebrook, Arthur.
1899	*Ambler, Sydney Wood.
1893	Amos, Frank (*Crawter Prize*, 1893).
1899	Angel, Francis Houghton.
1892	Anscombe, Ernest.
1895	Aris, John Whitton.
1900	Arno, Samuel.
1894	Arnott, John.
1897	Ashenden, Leonard Thomas.
1901	Assiter, Harry G.
1887	Austin, Richard, Jun.
1891	*Aylen, Cecil Hugh.
1899	*Baddeley, Bernard Beresford
1895	Bailey, Lewis Hewitt.
1891	Ball, William Alfred.
1893	Bancroft, Frederick Herbert
1898	Banks, Fredk. Stuart Angus (*Penfold Gold Medal*, 1898).
1895	*Bannister, Tom Harrison Caffyn.
1901	Barker, Frederick George.
1898	Barker, Geoffry Lionel.
1891	Barnes, George Frederick.
1899	Barns, Stephen Allen.
1901	*Basley, Harold Pullam.
1900	*Baverstock, Harold Bridge.
1893	Beadel, Frederick Maurice.
1889	Beard, Edwin Thomas.
1884	Bedells, Charles Herbert.
1895	Belcher, Edward John.
1896	Bell, Herbert Owen.
1893	Bellingham, Archibald Turner.
1888	Benson, Robert Alan (*Bracketed Special Prize*, 1884).
1897	*Bentley, Harold Edwin.
1901	*Berry, Charles Windsor.
1893	Beven, Septimus.
1899	*Bickford, Joseph Grant.
1894	Bidwell, John Evans.
1898	Bidwell, Philip Shelford.
1901	*Bigg, Lionel Thursfield.
1900	Birch, Francis Julian Laurence.
1894	Birch, Richard Elwyn.
1889	Birch, Walter de Hoghton.
1899	*Bird, John Bowyer.
1893	Blackbourn, Henry.
1898	*Blackshaw, Charles.
1898	Blake, Edwin Holmes (*Special Sanitary Science Certificate*, 1900).

Members of the Institution who have Passed the Fellowship Examination—continued.

1901 *Bliss, Thomas Cushway.
1898 *Blount, Edward.
1898 Blunt, Montague Cecil.
1893 Body, Arthur.
1899 Booker, Frank William.
1895 Booth, Gilbert William.
1891 Boulting, Frederick Edward.
1899 Bowden, John Friendship (*Institution Prize*, 1891; *Crawter Prize*, 1899).
1892 Brackett, Frederick Henry.
1899 *Brackett, William Newbegin.
1895 Bradley, James William.
1895 Bradshaw, Harry Greaves.
1893 Brady, Ralph Hollinshed.
1895 Breeds, Arthur Owen.
1900 *Bridgewater, Clement Joseph Bentley.
1898 Brighton, George Lawrence.
1894 Brinkworth, Robert Edwin.
1897 Brinsley, Herbert George William.
1901 *Brooker, Frederick George.
1896 Brooks, John McMullen.
1896 Brooks, Philip Fuller.
1893 Brown, Alexander Burnett.
1901 *Brown, Arthur Allen.
1893 Brown, Arthur Macdonald (*Driver Prize*, 1889).
1894 Brown, George Turville.
1901 *Bruton, Basil Vassar.
1901 *Bruzaud, George Joseph.
1887 Buckland, Alfred Virgoe.
1893 Buckland, Sidney Crawford.
1900 Burgess, Henry Herbert Philip.
1901 *Burr, Harry.
1887 Burrows, Alfred John.
1901 *Burrows, Frank Herbert,
1901 Burtenshaw, Albert King.
1896 Burton, Amos, Jun.
1901 *Burton, Reginald Robert.
1891 Bushell, Henry.
1899 Butler, Albert Ernest.
1899 *Butler, Charles.

1898 Carnell, Sydney George.
1898 Carpmael, Harold.
1900 *Carr, Herbert Francis.
1895 *Carr, Thomas Edmund.
1898 Cartwright, Alfred Stott.
1892 Castle, Harold.
1898 Chamberlain, George Arthur Raddon.
1895 Chambers, Theodore Gervase (*Penfold Gold Medal*, 1895).
1901 *Chart, Christopher.
1901 *Chattell, Francis Loriot.
1900 *Chesterton, Frank Sidney.
1900 Chichester, Richard Herbert.
1901 *Clark, Nathaniel, Jun.
1901 Clarke, Ernest Seymour.
1898 Clarkson, William, Jun.
1894 Coales, Herbert George.
1893 Cobham, George William (*Special Prize*, 1890; *Crawter Prize*, 1890).
1901 Cochrane, William James.
1900 *Cole, James Thomson.
1898 Collins, Horace.
1901 *Cook, Edward Arthur.
1895 Cooper, Alfred William.
1894 Cope, Henry James.
1899 *Cope, William George.
1892 Corderoy, Athelstane.
1898 Cotterell, Albert Player Isaac.
1899 Cowin, Norris Tynwald.
1900 Cowper, William Shapland.
1897 Cox, Walter Theodore.
1899 Creswell, William Thomas.
1893 Crier, John Thomas.

Members of the Institution who have Passed the Fellowship Examination—continued.

1899 *Cronk, Charles Tylee.
1895 Cross, Arnold Charles Martin.
1898 Crowther, Keston Nelson.
1901 *Cullen, Felix Victor.
1899 Culverhouse, Cecil Goldar Fearn.
1900 *Cutler, George Alfred.

1899 Dangerfield, Thomas Samuel.
1897 *Daniel, Henry Wilkinson (*Institution Prize*, 1896).
1890 Darch, John.
1901 Daubney, Charles.
1892 Davey, Henry Thomas.
1895 Davies, Cyril Froodvale (*Crawter Prize*, 1895).
1894 Davies, David Thomas.
1900 Dawson, George Crosbie.
1886 Day, William, Jun.
1893 Debenham, Frank Bridgewater.
1894 Debenham, Frederic Kersey.
1893 Debenham, Horace Bentley.
1890 Dendy, William Cooper (*Special Prize*, 1889).
1898 *Denton, William.
1885 Dickson, Thomas Arthur.
1896 Dinwiddy, Donald.
1891 Done, John James (*Driver Prize*, 1887).
1888 Drew, Henry Alban.
1901 *Dunstall, Herbert Henry.
1892 Dudley, Edgar.
1900 Dunlop, Dugdale Oakeley.

1891 Eagland, William Francis.
1901 *Earle, John Wilfrid.
1895 Eason, Edward William (*Institution Prize*, 1893).
1897 Easter, William (*Driver Prize*, 1896; *Penfold Silver Medal*, 1896).
1894 Edmonds, John.
1896 Egginton, Denys.
1895 Ellis, Albert Edward.
1901 *Ellis Alfred Cave.
1900 *Ellis, Arnold Robertson.
1889 Ellis, Francis, Jun.
1890 Ellis, Herbert Moates.
1890 Ellis, Ralph Staples.
1898 Eve, Charles Gerald (*Bracketed Crawter Prize*, 1898).
1887 Eve, Herbert Trustram.
1899 Eve, William Harold.
1899 Everington, John.
1895 Eves, Francis George Bertram.
1890 Eves, William Lionel.

1901 *Fair, Arthur Edward.
1898 Farmer, Hugh Cecil.
1895 Fenn, Andrew Thoma Cranage.
1895 Fields-Clarke, George Thomas.
1894 Finn, Fred.
1894 Finn, Herbert Archibald (*Special Prize*, 1891).
1901 *Fisher, Robert.
1894 Fitt, Harry Charles.
1899 Fletcher, Banister Flight.
1897 Fletcher, Herbert Phillips.
1895 Ford, Solomon.
1897 *Foster, Edward Charles.
1890 Foster, Frank (*Special Sanitary Science Certificate*, 1892)
1894 Foster, James Herbert Furmedge.
1899 Fox, Frederick Russell.
1893 Franklin, Benjamin Belgrove
1897 Fraser, Thomas Smellie.

Members of the Institution who have passed the Fellowship Examination—continued.

1894 Fraser, William.
1898 Fry, Joseph Harry.
1888 Furber, Percy Norman.
1898 Furmedge, John Harris.

1901 *Gale, Harry.
1899 Gardiner, Robert Strachan.
1894 Gardner, Gilbert.
1897 Garner, John Stanley.
1892 *Garrard, Arthur Norman.
1901 Gate, Henry Arthur Armitage.
1901 *Genge, William Pope, Jun.
1895 German, George, Jun. (*Driver Prize*, 1892).
1901 *Gibbon, Edward Acton.
1892 Giddy, Osman Horton.
1898 Glover, Henry Alexander.
1900 Goadby, Howard
1900 *Goff, James Cauldfeild.
1899 Goldsmith, Douglas Fleet.
1900 *Goodman, Alfred.
1897 Goulding, Arthur.
1892 Green, Alexander Ernest.
1897 Green, Edmund Horace.
1897 Green, Frederick Algernon (*Penfold Gold Medal*, 1897).
1896 Gregson, George Ernest.
1896 Griffin Alfred.
1900 *Gripper, Joseph Edward.
1892 Grover, Arthur.
1895 Grover, Philip Gordon.
1899 Gunter, James.

1891 Hadley, Frank.
1894 Haigh, Thomas Frederick.
1897 Hall, John Herbert.
1891 Hall, William Timothy (*Institution Prize*, 1894).
1894 Hampton, George Frederick William.
1901 *Hancock, Henry Sydney, Jun.
1888 Hansell, Reginald Goddard (*Special Sanitary Science Certificate*, 1893).
1897 Harrison, Charles.
1896 Harrison, George John Robertson (*Special Prize*, 1894).
1899 Harrison, John Edward.
1901 *Hartley, Tom Percy.
1890 Haslam, Dryland, Jun.
1886 Hasluck, Lancelot Gerald.
1901 *Hassett, Reginald Charles.
1901 *Hawkins, Lancelot Goulder.
1892 Hayward, Frederick George.
1900 Hayward, Thos. William Alfred.
1891 Head, John George (*Crawter Prize*, 1891).
1900 Healing, Oswald Judd.
1897 Heasler, Holland Charles.
1896 Hern, Samuel.
1895 Heward, Ernest James.
1891 Higgins George.
1901 *Hindmarsh, Ralph Frederick
1900 *Hinks, Henry.
1889 Hodge, Leonard Percival.
1895 Holiday, Percy Cave.
1899 Holl, Mackintosh Meleng.
1897 Hollis, Walter Dawson.
1897 Homan, Hubert Franklin.
1896 Hood, Walter Richard.
1900 Hood, Thomas (*Special Forestry Certificate*, 1901).
1901 *Hooley, Arthur John.
1901 *Hooper, Alfred Egbert.
1895 Hooper, Cecil Henry.
1897 Hooper, Edgar Wilfred.
1900 Hope, Arthur Ernest.
1883 Horne, William Edgar.
1899 Houghton, Thomas Marcus.
1901 *Howes, Arthur Burnaby (*Special Sanitary Science Certificate*, 1901).

Members of the Institution who have passed the Fellowship Examination—continued.

1901 *Howland, George.
1901 *Hunt, George Whitaker.

1897 Isted, Samuel Eveland.

1897 Jarman, William (*Institution Prize*, 1894).
1895 Jarman, Frank Wilmott.
1894 Jeffree, Sydney.
1897 Jenkin, Arthur Pearse.
1895 Jenkinson, John.
1898 Jenkinson, William Eric Leigh.
1897 Jenner, William.
1900 Jennings, Fitz-Laurence Percy Dudley.
1894 Johnson, Bernard Marr.
1884 Johnson, Henry.
1894 Johnston, Walter Henry
1900 *Johnston, Reginald.
1901 *Jonas, Harold Driver.
1889 Jonas, Harry Marshall (*Institution Prize*, 1887).
1900 Jones, David Pugh.
1898 Jones, Ernest Joel.
1890 Jones, Frederick Herbert.
1886 Jones, Henry Arthur (*Special Sanitary Science Certificate*, 1892).

1901 *Kelly, John George.
1892 Kemp-Smith, James Frederick.
1899 Kerr, John Murray.
1898 Kerruish, William Maltby.
1888 King, Alfred.
1897 Kingsford, Percy Hamilton.
1900 *Kirby, Edmund Francis Joseph.
1900 Kirk, John Wright.
1896 *Knight, George Edward.

1897 Lake, Cuthbert Joseph.
1896 Lakin-Smith, Ernest.
1889 Lambert, Godfrey Charles.
1898 *Lamprill, William Thomas.
1899 Lang, Charles Frederick Dashwood.
1895 Lancaster, John Roy.
1900 *Latham, Albert Tummins.
1893 *Lawley, Frederick William
1893 Leaning, Henry John.
1895 Leaning, William Arthur.
1894 Leather, George Herbert.
1900 Leather, William Beaumont.
1897 Lee, Edward Ernest Arthur.
1893 Lee, John Wilfrid.
1895 Leeder, Ernest Holtham.
1899 *Lloyd, Donald.
1900 Lomas, Albert Daniel.
1895 Longsdon, Ernest Morewood.
1897 Lucas, John Archibald.
1900 Luker, Dyneley.

1895 McCarthy, Henry Robert.
1895 MacNicoll, Douglas Henry.
1891 Mann, Robert Bagshaw.
1900 Marriott, Arthur Sutcliffe.
1899 Marshall, Arthur George.
1897 Martin, Alfred John.
1895 Martin, Heber Gambling (*Institution Prize*, 1888).
1901 *Martin, John Pattinson.
1895 Martin, Samuel.
1892 Martin, Thomas (*Special Forestry Certificate*, 1893).
1888 Massie, Frank.
1901 *Mather, James.

Members of the Institution who have Passed the Fellowship Examination—continued.

1895 Mathews, Louis Osler.
1900 Matthews, Douglas Samuel
1889 Maxwell, Francis William.
1898 Maxwell, Joseph Archibald.
1901 *Meaby, Thomas James.
1893 Mellingfield, James Henry.
1890 *Melrose, Frank (*Special Sanitary Science Certificate*, 1893).
1897 Mercer, Charles Edward.
1892 Merry, Arthur Walker (*Institution Prize*, 1890).
1894 Messenger, Henry.
1884 Michelmore, Alfred (*Special Forestry Certificate*, 1890).
1896 Miller, John Ezra.
1892 Mitchell, George Sharman.
1884 Mixer, Edward.
1901 *Molyneux, Frank Eustace.
1885 Moore, Harold Edward.
1899 Morris, Arthur.
1894 Morris, Richard Percival.
1899 *Morris, William Henry.
1891 Mould, Graham Harley.
1892 Muller, John Joseph.
1900 *Mumby, Elvin Fowler.

1899 Nesbitt, John Oscar.
1894 Newman, Samuel Frank.
1898 Newton, Edwin Bennett Brierley.
1900 Nockolds, Alfred George.
1895 *Nockolds, Martin Charles Hubert.
1895 Norman, James Noel.
1883 North, George Frederic.
1897 Nuttall, Herbert.

1894 Oakley, Christopher Percival.
1891 Oakley, John Hubert.
1900 O'Brien, Donough Richard.
1892 Ogden, Michael Guy.
1899 Ogilvie, Robert Mathewson.
1899 *Oldnall, Roger William.
1901 *Orwin, Charles Stewart,
1898 Osenton, Charles.
1892 Osenton, George, Jun.

1896 Page, Stanley Hatch (*Special Sanitary Science Certificate*, 1900).
1895 Pain, George Lloyd.
1885 Pain, James.
1899 *Pain, William Henry.
1892 Palamountain, Joseph Wm.
1901 Palmer, William Edward King.
1891 Parris, Charles John.
1896 Parry, Joseph William.
1887 Parry, Richard.
1900 Parry, Richard Frederick.
1894 Partridge, Edward John (*Driver Prize*, 1890; *Penfold Gold Medal*, 1894; *and Crawter Prize*, 1894).
1898 Patch, Shirley Hutchings.
1886 Paull, Alan.
1897 Pearce, Fred. W.
1898 Pearse, Octavius Burroughes
1896 Pearson, Harry John.
1895 Pearson, Howard.
1898 *Peebles, Philip.
1891 Perkins, Walter Frank (*Special Prize*, 1886).
1884 Peto, James Winder.
1897 Phillips, William.
1885 Pilditch, Philip Edward (*Special Sanitary Science Certificate*, 1890).
1900 Pinder, Richmond.

Members of the Institution who have Passed the Fellowship Examination—continued.

1900 Pinegar, James Reginald (*Crawter Prize*, 1900).
1897 Pinney, Frederick Wyldbore Digby.
1894 Potter, Herbert George.
1895 Powell, Charles Reginald Evernden.
1896 Prall, Herbert Alexander.
1895 Prall, Herbert Edward.
1901 *Pratt, Frank Percy.
1892 Preston, Samuel David.
1898 *Price, Capel Hereward.
1894 Price, Richard Arnold.
1896 Pritchard, Herbert Alfred.
1891 Punchard, Frederick Burt.
1896 Purvis, Charles James.

1901 *Raffety, Harold Vezey.
1896 Raffety, Herbert William (*Special Prize*, 1892).
1899 *Reed, Richard George Gordon.
1901 *Reeve, Douglas William.
1897 Reffell, Charles Arthur (*Special Sanitary Science Certificate*, 1901).
1898 Reid, Arthur Fletcher.
1896 Renton, George.
1899 Richardson, Arthur Bayliffe.
1898 *Richardson, James, Jun.
1892 Richardson, Oliver Archer (*Crawter Prize*, 1892).
1900 Ridley, Percy Edward.
1900 *Robbins, Walter Francis.
1901 *Roberts, John.
1894 Robins, Philip Seymour.
1892 Robinson, Henry Herbert.
1898 Robinson, Theodore Richard
1897 Rogers, Horace Mordaunt.
1884 Rolleston, William Gustavus Stanhope (*Institution Prize*, 1883).
1887 Roods, Alfred (*Driver Prize*, 1886).
1898 Rook, Joseph Taylor (*Special Prize*, 1896).
1898 Rowland, Joseph Samuel.
1889 Rundle, Edward Collins.

1889 Sadler, George William, Jun.
1900 *Sanday, William Henry.
1896 Sandford, Charles Sidney.
1891 Saunders, Charles Herbert.
1901 *Saunders, Edgar Walter.
1899 Saunders, Samuel Brown.
1892 Savill, Edwin.
1899 Scott, Archibald Lacy.
1900 Scott-Smith, Arthur Courtenay.
1900 *Scrivener, John Charles.
1894 Scruby, William Thomas.
1899 Secker, John Eustace.
1899 Sedgwick, Alfred Sydney Edward.
1899 *Seel, Robert Harold.
1897 Sexton, George Alexander.
1898 Shearburn, Harry.
1899 *Sheldon, Harold.
1900 Shufflebotham, John Henry.
1883 Silcock, Thomas Ball.
1898 *Skingle, Alfred Charles.
1897 Skipper, Henry Herbert.
1898 Skrimshire, Samuel.
1899 Skues, Charles Ayre Mackenzie.
1892 Slater, Charles Frederick.
1898 Sly, Joseph Townson.
1900 Sly, William.
1897 Smith, Charles Gordon.
1895 Smith, Frank Braybrooke.
1889 Smith, Frank William (*Driver Prize*, 1888).
1889 *Smith, George Henry.

Members of the Institution who have Passed the Fellowship Examination—continued.

1900 *Smith, John Ambrose.
1899 Smith, Sydney Arthur (*Driver Prize*, 1897; *Penfold Silver Medal*, 1897; *Penfold Gold Medal*, 1899).
1884 Smith, William.
1900 Southorn, Charles Herbert.
1896 Sowels, William Clowes.
1898 Standen, Arthur Carnegie.
1901 Stanford, George.
1901 *Stanton, Frederick William Shultheiss.
1894 Stapledon, Ernest Allen.
1901 Stewart, George Pakenham.
1901 Stewart, Henry Pakenham.
1898 Stewart, Samuel Parr.
1900 *Stimson, Edward Frederick.
1899 *Stimson, Herbert Percy.
1901 *Stokes, Hugh Charles.
1898 Strouts, Lewis Herbert.
1899 Sutton, Frederick Stanley.
1898 *Swanwick, Bruce.

1896 Tallent, Edwin James.
1897 *Tate, Joseph George.
1895 Taylor, Harry William.
1899 Taylor, Thos. William Harris.
1894 Tee, Samuel Clifford.
1894 Temple, Frederick Wilson.
1900 *Terry, Francis William
1898 Theakston, William Pease (*Bracketed Crawter Prize*, 1898).
1898 Theobald, John Meadows.
1900 Thomas, Charles John Howell. (*Driver Prize*, 1898; *Penfold Silver Medal*, 1898; *Penfold Gold Medal*, 1900).
1901 Thomas, Illtyd.
1896 *Thompson, Roland O'Brien.
1895 Thring, Douglas Theodore.
1900 Thurgood, Albert Edward.
1893 Tory, John Edward, Jun.
1898 Townend, William.
1885 Treadwell, Henry John (*Driver Prize*, 1883).
1900 *Tremlett, Walter William.
1901 *Trent, William Edward (*Penfold Gold Medal*, 1901)
1893 Tuckett, Percival Fox.
1898 Tutt, Edwin Thomas.
1893 Tyler, James William.
1900 *Type, Marcus Oswald.

1901 Upsdale, Andrew Reed.

1883 Vernon Arthur.
1898 Vinten, Harold Bertram.

1901 *Wacher, Thomas Blake.
1897 *Walker, William Selves (*Special Prize*, 1895; *Crawter Prize*, 1897).
1897 Wallis, John David.
1901 Warmington, Herbert Andrew Cromartie (*Crawter Prize*, 1901).
1899 *Waterfield, Horace Clare.
1900 *Watson, David Alexander.
1896 Watson, Herbert John (*Institution Prize*, 1895).
1895 Watson, James Bruce.
1894 Watson, John, Jun.
1892 Webster, Hugh Calthrop.
1900 Wells, Frederic Beauchamp.
1895 Wells, William Henry.
1901 *Welsh, Hugh.
1895 West, Charles Henry Edward.
1900 *West, Herbert James.
1898 Wheatley, Stephen Gladstane

Members of the Institution who have Passed the Fellowship Examination—continued.

1897 Wheeler, John Henry West.
1897 Whitaker, Ernest Victor.
1896 Whittaker, John Dronsfield (*Penfold Silver Medal* 1894; *Driver Prize*, 1894; *Penfold Gold Medal*, 1896; *Crawter Prize*, 1896).
1897 Whitton, Percy.
1901 *Wigley, Sidney Prudden.
1899 Wigram, Reginald Spencer.

1896 *Wilde, Algernon Sidney.
1900 *Wilkinson, Percy Newton.
1901 *Williams, Arthur Codrington.
1896 Williams, Henry Cuthbert.
1894 Willis, Edward.
1901 *Williams, Richard Ernest Havard.
1899 *Willoughby, Charles Albert.
1899 Wilson, Frederick Robert.
1898 Wilson, Lawrence Richard.
1896 Wonnacott, Ernest William Malpas.
1900 *Wontner-Smith, Percy.
1891 Wood, Charles Bruce.
1901 *Wood, John Edward.
1896 Wood, Leslie Stuart (*Special Forestry Certificate*, 1900; *Daniel Watney Prize*, 1900.)
1899 Woodrow, Thomas John.
1895 Woods, Arthur George.
1900 Wood-Martin, Henry Roger Bromhead.
1898 Woof, Robert Stephenson.
1901 Wyatt, Herbert Guy Buckell.
1895 Wyles, John Walter.

1892 Young, Harry Austin Lindsay.
1899 Young, Thomas John.

Members of the Institution who have Passed the Professional Associateship Examination.†

† *This list does not include the names of those who have passed the Examination but have not yet joined the Institution.*

1891	Abrams, Benjamin Percy.
1894	Adams, Gerald Jas. Frederick
1895	Adams, Herbert.
1897	Addie, John Heathcote.
1896	Addiscott, Henry Hugh.
1887	Adkin, Benaiah Whitley.
1899	Alderson, Rowland William.
1893	Allen, John Parnell.
1895	Allen, Percy.
1896	Allpress, Horace Edward.
1898	Allsebrook, Arthur.
1896	Ambler, Sydney Wood.
1892	Amos, Frank.
1895	Anderson, Thomas John.
1898	Andrews, Arthur George.
1898	Andrews, Herbert George.
1896	Andrews, Stephen Hampton.
1898	Angel, Francis Houghton.
1887	Anscombe, Ernest.
1897	Appleby, Frank Sefton.
1899	Armstrong, John William Wilson.
1890	Armytage, Francis Reg.
1896	Arnold, Alan.
1900	Arnold, Harry Hagon.
1896	Arno, Samuel.
1885	Arnott, John (*Special Prize*, 1885).
1894	Aris, John Whitton.
1896	Ashenden, Leonard Thomas.
1889	Assiter, Harry G. (*Special Sanitary Science Cer.*, 1892).
1894	Astley, Reginald Basil.
1898	Attlee, Edward Guy.
1887	Austin, Richard, Jun.
1890	Aylen, Cecil Hugh.
1897	Baddeley, Bernard Beresfd.
1893	Bailey, Louis Hewitt.
1885	Baker, Cecil Cautley,
1888	Ball, James Benjamin.
1889	Ball, William Alfred.
1890	Bancroft, Frederick Herbert
1900	Banks, Edward John Stanley.
1895	Banks, Frederick Stuart Angus.
1893	Bannister, Tom Harrison Caffyn.
1890	Barclay, Thomas.
1899	Barker, Frederick George.
1892	Barker, Geoffry Lionel.
1889	Barnes, George Frederick.
1898	Barns, Stephen Allen.
1884	Barratt, Harry.
1898	Barratt, Leigh.
1900	Basley, Harold Pullam.
1898	Baverstock, Harold Bridge.
1900	Baylis, Albert Edward.
1899	Baylis, Alfred William.
1896	Beach, Archibald William Hicks.
1890	Beadel, Maurice Frederick.
1885	Beard, Edwin Thomas.

Members who have Passed the Professional Associateship Examination—continued.

1891	Beasley, John Arthur Llewellyn (*Driver Prize*, 1891).
1883	Bedells, Charles Herbert.
1898	Bedwell, Ernest Charles.
1894	Beken, George, Jun.
1888	Belcher, Edward John.
1894	Bell, Herbert Owen.
1889	Bellingham, Archibald Turner.
1895	Bentley, Harold Edwin.
1898	Berry, Charles Windsor.
1898	Betenson, Frederic Roger.
1898	Bettridge, John Charles Lebon.
1892	Beven, Septimus.
1898	Bibbey, Thomas.
1897	Bickford, Joseph Grant (*Special Prize*, 1897).
1893	Bidwell, John Evans.
1895	Bidwell, Philip Shelford.
1897	Bigg, Lionel Thursfield.
1900	Bingham, William Raper.
1895	Birch, Francis Julian Laurence.
1893	Birch, Richard Elwyn.
1884	Birch, Walter de Hoghton.
1897	Bird, John Bowyer.
1886	Birkett, Tom.
1897	Blackshaw, Charles.
1897	Blake, Edwin Holmes.
1894	Blount, Edward.
1885	Blundell, Harry.
1900	Bliss, Thomas Cushway.
1896	Blunt, Montague Cecil.
1898	Blyth, George Alfred.
1900	Blythe, Harold King.
1896	Boden, Maurice.
1893	Bodger, Percy Morris.
1890	Body, Arthur,
1895	Boord, Walter Bertram.
1899	Booth, Ernest Witton.
1887	Booth, Gilbert William.
1896	Bösher, Victor Evans.
1890	Boulting, Frederick Edward.
1900	Bourchier, Claud J.
1886	Bousfield, Edwin Vaughan Davenport.
1891	Bowden, Ernest Newton.
1897	Bowden, Harry.
1891	Bowden, John Friendship.
1888	Bower, Arthur Wentworth Chivers.
1890	Brackett, Frederick Henry.
1897	Brackett, William Newbegin.
1894	Bradley, James William.
1899	Bradshaw, Arthur George (*Special Prize*, 1899).
1896	Bradshaw, Arthur Stanley.
1893	Bradshaw, Harry Greaves.
1888	Brady, Ralph Hollinshed.
1899	Brand, Edmund.
1888	Brevetor, Thomas, Jun.
1889	Bridgford, Leo Appleton.
1899	Bridgewater, Clement Joseph Bentley.
1900	Brierley, Hugh Colley (*Institution Prize*, 1900).
1886	Briggs, John.
1896	Brighton, George Lawrence.
1900	Brimacombe, Charles Seymour.
1892	Brinkworth, Robert Edwin.
1894	Brinsley, Herbert George William.
1899	Brooker, Frederick George.
1895	Brooks, John McMullen.
1895	Brooks, Philip Fuller.
1899	Brooks, William Nathaniel.
1891	Brown, Alexander Burnett.
1898	Brown, Arthur Allen.
1897	Brown, Arthur Frederick.
1889	Brown, Arthur Macdonald.
1896	Brown, Frederick.
1892	Brown, George Turville.
1898	Brown, Thomas, Jun.
1887	Brown, William Edward.

Members who have Passed the Professional Associateship Examination—continued.

1893	Brown, William Lobin Trant.
1900	Browning, Egbert George.
1894	Bruce, Alexander David.
1899	Bruton, Basil Vassar.
1900	Bruzard, George Joseph.
1900	Bryan, Arthur.
1885	Buckland, Alfred Virgoe.
1891	Buckland, Sidney Crawford.
1888	Bulbeck, George.
1900	Bulley, Horace William.
1892	Burder, Reginald Edward Campbell.
1897	Burgess, Henry Herbert Philip.
1900	Burman, William.
1900	Burr, Harry.
1898	Burroughes, Charles Fitzpatrick.
1886	Burrows, Alfred John.
1897	Burrows, Frank Herbert.
1898	Burtenshaw, Albert King.
1895	Burton, Amos.
1898	Burton, Reginald Robert.
1887	Bushell, Henry.
1887	Buss, Fleetwood George William.
1898	Butcher, Thomas Ewen.
1894	Butler, Albert Ernest.
1897	Butler, Charles.
1895	Butler, Richard Pierce.
1899	Buttenshaw, Ernest Newth.
1894	Cambridge, William James.
1898	Campbell, Charles Howard.
1897	Cargill, Campbell Featherston.
1898	Carr, Herbert Francis.
1891	Carr, Thomas Edmund.
1894	Carnell, Sydney George.
1897	Carpmael, Harold.
1887	Carter, Alfred Presley.
1895	Cartwright, Alfred Stott.
1897	Cassin, Charles Langa.
1891	Castle, Harold.
1896	Cathcart, Archibald Hamilton.
1898	Chadwick, Spencer.
1888	Chalcraft, Henry Terrell.
1894	Chambers, Theodore Gervase
1893	Champion, George Ernest.
1896	Chamberlain, Arthur George Raddon.
1900	Charles, Michael Thomas.
1895	Chart, Christopher.
1898	Chattell, Francis Loriot.
1888	Cheney, Edwin John.
1898	Chesterton, Frank Sidney.
1900	Chesterton, Sidney James.
1899	Chichester, Richard Herbert
1892	Child, Charles.
1888	Child, Edmund Herbert.
1897	Chipp, George.
1899	Church, Jeoffrey Redmore.
1898	Clark, Nathaniel, Jun.
1897	Clarke, Charles Wentworth.
1900	Clarke, Ernest Seymour.
1899	Clarke, Leonard Eustace.
1897	Clarkson, William.
1900	Clegg, Robert Langton.
1900	Clunn, Thomas Henry Gwyther.
1885	Coales, Herbert George.
1900	Cobb, Henry Alfred William.
1897	Cobbe, Henry Alexander.
1890	Cobham, George William.
1900	Cochrane, William James.
1889	Colbourn, Henry James (*Special Forestry Certificate*, 1890)
1898	Cole, Francis Joseph.
1899	Cole, George Harry.
1899	Cole, James Thomson.
1887	Collingham, J. Cyril Lees.
1896	Collins, Horace.
1885	Collins, Marcus E.
1888	Collyer, Daniel William.

Members who have Passed the Professional Associateship Examination—continued.

1898	Constable, John.
1899	Cook, Edward Arthur.
1900	Cook, Frederick Charles.
1897	Cooke, Frederick Roper.
1892	Cooke, Lionel.
1900	Cooke-Yarborough, Orfeur Frederic.
1893	Cooper, Alfred William.
1900	Cooper, George Augustus.
1890	Cope, Henry James.
1900	Cope, Gerald Harwood.
1897	Cope, William George.
1900	Corbett, John Rooke, B.A.
1891	Corderoy, Athelstane.
1895	Corfield, Thomas.
1896	Cory, Edward John.
1897	Councell, Thomas James.
1894	Cowell, Herbert Lee.
1896	Cowell, Wilfred Lee.
1896	Cowin, Norris Tynwald.
1895	Cowper, William Shapland.
1893	Cox, Reginald John.
1896	Cox, Walter Theodore.
1899	Cragg, George Edwin.
1900	Cramphorn, Charles Herbert.
1899	Crampton, Arthur Wesley.
1883	Crawter, John, Jun.
1894	Cregeen, Hugh Stowell, Jun.
1897	Creswell, William Thomas.
1891	Crier, John Thomas.
1900	Crockatt, Harry.
1899	Croft, George Herbert.
1897	Cronk, Charles Tylee.
1899	Crook, Hollis Augustus.
1894	Crosier, Charles.
1886	Crosland, Walter.
1891	Cross, Arnold Charles Martin.
1888	Crouch, James Leonard.
1895	Crowther, Keston Nelson.
1896	Crozier, George Francis.
1900	Cullen, Felix Victor.
1898	Culverhouse, Cecil Goldar Fearn.
1897	Cushen, Charles Osmon.
1899	Cutler, George Alfred.
1897	Dadd, Charles John Thomas.
1896	Dafforn, George Bertie.
1898	Dancaster, Arthur.
1897	Dangerfield, Thomas Samuel.
1896	Daniel, Henry Wilkinson.
1899	Daniel, Herbert Hood.
1899	Dann, Henry, Jun.
1893	Darbishire, Harry Vernon.
1899	Darch, John.
1900	Daubney, Charles Archibald.
1888	Davey, Henry Thomas.
1893	David, George Willoughby.
1900	Davidge, William Robert.
1897	Davidson, Richard Bruce.
1893	Davies, Cyril Froodvale.
1892	Davies, David Thomas.
1900	Davies, James George Morris.
1899	Davies, John William Satterley Humphreys.
1891	Davis, Neville Brookes.
1896	Davis, William Henry Harold
1898	Dawson, George Crosbie.
1883	Day, William, Jun.
1892	Debenham, Frank Bridgewater.
1893	Debenham, Frederic Kersey.
1891	Debenham, Horace Bentley.
1893	Delamare, Frank.
1900	Dellschaft, Adolf Henry.
1899	Delves, Robert Harvey Addington.
1889	Dendy, William Cooper.
1897	Denton, William.
1899	Dickinson, James Murgatroyd.
1884	Dickson, Thomas Arthur.

Members who have Passed the Professional Associateship Examination—continued.

1894	Dinwiddy, Donald.
1888	Dixon, Francis Edward (*Special Prize*, 1888).
1899	Dodd, Eustace Cyril Theodore
1887	Done, John James.
1897	Douglas, Bernard Moxon.
1896	Draper, Edwin Maxwell.
1886	Drew, Henry Alban.
1895	Drew, Walter Hubert.
1892	Druce, Edric.
1889	Dudley, Edgar.
1900	Dudley, Roland.
1899	Dunlop, Dugdale Oakeley.
1900	Dunstall, Herbert Henry.
1897	Dunt, John Harlow.
1898	Dyer, Frederick Burfield.
1888	Eagland, William Francis.
1900	Earle, John Wilfrid.
1893	Eason, Edward William.
1886	Easter, William.
1893	Easton, Walter John (*Driver Prize*, 1893).
1893	Edmonds, John.
1895	Eggington, Denys.
1893	Elgar, Walter Robinson.
1890	Elgood, Frank Minshull.
1897	Eliott, Arnold.
1892	Ellis, Albert Edward.
1897	Ellis, Alfred Cave.
1898	Ellis, Arnold Robertson.
1890	Ellis, Francis, Jun.
1888	Ellis, Herbert Moates.
1887	Ellis, Ralph Staples.
1900	Ellis, Rupert Lumley.
1896	Elphick, George Pelham.
1899	Ethelston, Hugh Wicksted.
1895	Evans, Ernest Sydney.
1895	Evans, Percival Baker.
1900	Evans, Rupert Maurice.
1894	Eve, Charles Gerald.
1887	Eve, Herbert Trustram.
1892	Evered, Gilliebrand Edwin.
1892	Everett, Arthur Sherman.
1894	Everington, John.
1894	Eves, Francis George Bertram
1888	Eves, William Lionel.
1894	Fagg, Edwin William.
1896	Fair, Arthur Edward.
1895	Farmer, Hugh Cecil.
1897	Farnham, William Augustus.
1898	Field, Charles Roland.
1894	Finch, Clement Robert.
1892	Finn, Fred.
1891	Finn, Herbert Archibald.
1896	Fisher, Robert.
1893	Fitt, Harry Charles.
1895	Fleetwood George Spalding.
1900	Fletcher, Harold Vernon.
1893	Fletcher, Herbert Phillips.
1892	Flight, Alfred.
1892	Ford, Solomon.
1890	Forrest, William.
1889	Forster, Walter Hill.
1895	Foster, Edward Charles.
1888	Foster Frank.
1898	Foster, Henry Helm.
1892	Foster, James Herbert Furmedge.
1900	Foster, Walter.
1900	Foster, William Howard.
1898	Foulkes, Noel Macintyre.
1899	Fowler, Alfred Charles Stanley.
1892	Fox, Charles Edward.
1900	Fox, Ernest.
1894	Fox, Frederick Russell.
1900	Fox, William.
1891	Franklin, Benjamin Belgrove
1895	Fraser, Thomas Smellie.
1899	Freeman, George (*Driver Prize*, 1899).
1890	Fraser, William.
1900	Freuer, William Samuel.

Members who have Passed the Professional Associateship Examination—continued.

1895	Funnell, Horace Frederick.
1887	Furber, Percy Norman.
1897	Furmedge, John Harris.

1896	Gale, Arthur Witherby.
1900	Gale, Harry.
1889	Galsworthy, Vincent Somers
1898	Gardiner, Robert Strachan.
1892	Gardner, Gilbert.
1895	Garner, John Stanley.
1890	Garrard, Arthur Norman.
1894	Garrett, Arthur Berry.
1899	Gate, Henry Arthur Armytage (*Institution Prize*, 1899).
1897	Gayer, Alfred Edward.
1899	Genge, William Pope, Jun.
1892	German, George, Jun.
1896	Gethin, Randolph George.
1900	Gibbon, Edward Acton.
1885	Gibbon, William Jacomb (*Driver Prize*, 1885).
1889	Giddy, Osman Horton.
1894	Gilbert, John Sainsbury.
1894	Glover, Henry Alexander.
1896	Goadby, Howard.
1898	Goadby, Joseph Stubbins.
1885	Godfrey, Robert.
1899	Goff, James Caufield.
1897	Goldsmith, Douglas Fleet.
1886	Golightly, Charles Hugh.
1900	Goodbody, Frederick Allen Sturge.
1899	Goodman, Alfred.
1896	Goulding, Arthur.
1889	Grant, Joseph.
1897	Gray, Horace Norman.
1893	Gray, Percy William.
1890	Green, Alexander Ernest.
1896	Green, Arthur Edward.
1891	Green, Edmund Horace.
1893	Green, Frederick Algernon.
1887	Green, Thomas John.
1886	Green, Thomas Joseph.
1896	Greenfield, Frederick James
1884	Greenop, Edward.
1897	Greenwood, Ernest.
1895	Gregson, George Ernest.
1894	Griffin, Alfred.
1892	Griggs, Henry Jenner.
1888	Grimes, Ralph Fearon.
1898	Gripper, Joseph Edward.
1900	Grove, Richard Thomas.
1889	Grover, Arthur.
1894	Grover, Philip Gordon.
1888	Gunter, James.
1899	Gurney, Ronald George.

1889	Hadley, Frank.
1892	Haigh, Thomas Frederick.
1884	Halkyard, William Redford.
1900	Hall, Augustus William.
1900	Hall, Clement Arthur.
1895	Hall, Frederick Walter.
1897	Hall, Henry Alexander Thomas.
1896	Hall, John Herbert.
1899	Hall, John Sebastian.
1895	Hall, Thomas Biddle.
1884	Hall, William Timothy.
1890	Hampton, George Frederick William.
1900	Hancock, Henry Sydney, Jun. (*Special Prize*, 1900).
1895	Hankey, Gilbert Lionel.
1892	Hankinson, Francis Henry.
1887	Harding, Frederick Allcroft.
1887	Hansell, Reginald Goddard.
1894	Hardiman, Harry.
1895	Hardwick, Arthur Jessop.
1900	Harlow, William Wyatt Ridgway.
1895	Harrison, Arthur.
1895	Harrison, Cyril Henry Gilmore.

Members who have Passed the Professional Associateship Examination—continued.

1894 Harrison, George John Robertson.
1897 Harrison, Henry Beauchamp.
1897 Harrison, John Edward.
1899 Hartley, Tom Percy.
1895 Harvey, Frederick Charles.
1888 Haskins, William Albion.
1889 Haslam, Dryland, Jun.
1883 Hasluck, Lancelot Gerald.
1898 Hassett, Reginald Charles.
1893 Hawes, Frederick Kirk.
1898 Hawkins, John Frederick.
1899 Hawkins, Lancelot Goulder
1890 Hayward, Frederick George.
1897 Hayward, T. Wm. Alfred.
1895 Haywood, Samuel Spencer.
1889 Head, John George.
1897 Head, William Alfred.
1898 Heal, Harold.
1900 Heal, Herbert George.
1898 Healing, Oswald Judd.
1894 Heasler, Holland Charles.
1898 Heath, Henry Cubitt.
1885 Hebblethwaite, Charles Henry.
1894 Heckford, Harley.
1892 Hellicar, George Thomas (*Special Sanitary Science Certificate*, 1893).
1896 Hemphill, Charles George Cathcart.
1886 Henderson, Richard.
1894 Heward, Ernest James.
1893 Hewett, George Thompson.
1895 Hicks, William Rooke.
1900 Hider, Sydney William.
1889 Higgins, George.
1886 Hill, Alfred.
1885 Hilliard, George Edward.
1900 Hilliard, Hugh Neville.
1899 Hinchsliff, Edward Robert.
1899 Hindmarsh, Michael Anselm.
1900 Hindmarsh, Ralph Frederick.
1898 Hinks, Henry.
1900 Hipsley, Fredeick William.
1888 Hodge, Leonard Percival.
1898 Hodges, Cecil Stuart.
1890 Hodgkinson, James Henry.
1896 Hodgson, Arch. Sanford.
1893 Holiday, Percy Cave.
1898 Holl, Mackintosh Meleng.
1891 Hollis, Herbert.
1891 Hollis, Ralph.
1894 Holmes, John Edward.
1888 Homan, Hubert Franklin.
1896 Homfray, Herbert Richards.
1896 Hood, Thomas.
1899 Hooley, Arthur John.
1900 Hooper, Alfred Egbert.
1887 Hooper, Cecil Henry.
1895 Hooper, Edgar Wilfred.
1896 Hooper, Gerald Huntley.
1899 Hope, Arthur Ernest.
1895 Horton, William Phelps.
1900 Houghton, William Charles.
1900 Howes, Arthur Burnaby.
1899 Howgrave-Graham, Alan Herbert.
1898 Howgrave-Graham, George Ernest.
1897 Howland, Arthur Frank.
1899 Howland, George.
1898 Hudson, Albert William.
1898 Humphry, Martin George.
1899 Hunt, George Whitaker.
1899 Hurlbutt, Percival.
1897 Hutchins, Richard.

1890 Innes, Gilbert Plantagenet Mitchell.
1893 Irvine, Archibald Wyndham.

Members who have Passed the Professional Associateship Examination—continued.

1894 Jackson, Alfred Ernest.
1894 Jackson, Edward Henry.
1895 Jackson, Leonard Labrey.
1898 Jackson, Robert Ewan.
1894 Jarmain, William.
1892 Jarmain, Frank Wilmot.
1892 Jarrett, Thomas William.
1893 Jeffree, Sydney.
1895 Jenkin, Arthur Pearse.
1896 Jenkins, Richard James.
1893 Jenkinson, John.
1896 Jenkinson, William Eric Leigh.
1894 Jenner, William.
1896 Jennings, Fitz-Lawrence Percival Dudley.
1891 Jessett, Charles Edward Vernon.
1895 John, Henry Bell.
1892 Johnson, Bernard Marr.
1900 Johnson, Frederick John.
1897 Johnson, Harry Labron.
1883 Johnson, Henry.
1898 Johnston, Reginald.
1887 Johnston, Walter Henry.
1899 Jolly, Pearson Alexander.
1900 Jonas, Harold Driver.
1887 Jonas, Harry Marshall.
1886 Jonas, Samuel Marshall.
1900 Jones, Arthur Bayly.
1894 Jones, David Pugh.
1896 Jones, Ernest Joel.
1888 Jones, Frederick Herbert.
1883 Jones, Henry Arthur.
1898 Jones, John Arthur.
1898 Jones, Percy Everley.
1899 Jones, Philip Vivian.
1891 Joyce, Harry Ward.
1885 Jull, William Vincent.

1890 Kay, Walter Robert.
1900 Kaye, Herbert.
1895 Keay, William.
1894 Keep, William Henry.
1900 Kelly, Arthur Ralph.
1899 Kelly, George William Calver.
1890 Kemp-Smith, James Frederick
1900 Kemsley, Norman Bolton.
1895 Kemsley, William Hugh.
1893 Kennett, Charles Arthur.
1897 Kerr, John Murray (*Institution Prize*, 1897).
1896 Key, Astley Cooper.
1897 Kibblewhite, Henry James Treleaven.
1894 Kieser, William Henry Gustav.
1894 Killick, Anthony Edward.
1898 Kincaid, Herbert Edward.
1887 King, Alfred.
1893 King, Walter Nike.
1886 King, William Isaac.
1896 Kingsford, Percy Hamilton.
1896 Kirby, Edmund Francis Joseph
1895 Kirk, John Wright.
1897 Knatchbull, Wyndham Persse
1900 Knibb, Frederick Charles.
1892 Knight, George Edward.
1899 Knowles, George Potter.

1899 Laird, Ninian P.
1895 Lake, Cuthbert Joseph.
1890 Lake, Vivian Davey.
1895 Lakin-Smith, Ernest.
1888 Lambert, Godfrey Charles.
1899 Lampard, Sydney Martin.
1895 Lamprill, William Thomas.
1893 Lancaster, John Roy.
1898 Lang, Charles Frederick Dashwood.
1900 Lanham, Laurence.
1885 Lansdown, George Arthur.
1890 Larkin, Richard Webster.
1899 Latham, Albert Tummons.

Members who have Passed the Professional Associateship Examination—continued.

1895	Laumann, Montgomery Patrick John.
1899	Laurence, Walter Bernard.
1891	Lawley, Frederick William.
1900	Lawley, George Frank.
1898	Leake, Robert.
1896	Leane, Walter Burditt.
1890	Leaning, Henry John
1894	Leaning, William Arthur.
1897	Leather, William Beaumont.
1895	Lee, Ernest Edward Arthur.
1896	Lee, Francis Blacklock.
1896	Lee, Henry.
1886	Lee, John Wilfrid.
1900	Leigh, Vincent Stanley.
1896	Leese, Vernon Francis.
1899	Lemmoin-Cannon, Henry.
1890	Lewis, Arthur Llewelyn.
1898	Lewis, John.
1899	Lickis, Leonard.
1894	Lightfoot, Francis Prideaux
1900	Lisney, Harry.
1892	Little, Henry.
1899	Little, Hudson.
1900	Living, Charles, Jun.
1897	Lofthouse, Albert Wilson.
1898	Lloyd, Donald (*Institution Prize*, 1898).
1899	Lomas, Albert Daniel.
1897	Lomax, Ernest George.
1891	Longsdon, Edward Morewood
1895	Lovegrove, Charles Gresham
1886	Lowe, Charles Robert.
1892	Lucas, John Archibald.
1895	Luck, George Edward.
1899	Luke, John, Jun.
1899	Luker, Dyneley.
1899	Lumley, Edward Adrian.
1898	Lumley, Frederick Robert.
1899	Lynes, Humphrey Dod.
1894	Lyons, Edward Colvill.
1894	McCarthy, Henry Robert
1893	Macer, Alfred Thomas.
1897	Mackenzie, Hector John Maxwell.
1900	Mackintosh, William Smith.
1899	Mager, Sydney.
1900	Maggs, Leonard.
1896	Mallinson, Charles Herbert.
1893	Mann, Frederick Charles Thomas.
1888	Mann, Robert Bagshaw.
1897	Marchant, Robert Charles.
1898	Marcus, William Mortimer.
1893	Marriott, Cecil Wynn.
1896	Marshall, Arthur George.
1896	Martin, Alexander William.
1893	Martin, Alfred John (*Special Prize*, 1893).
1888	Martin, Heber Gamblin.
1900	Martin, John Patterson.
1893	Martin, Samuel.
1888	Martin, Thomas.
1889	Mason, Charles William Hayley.
1885	Massie, Frank.
1900	Mather, James.
1893	Mathews, Lewis Osler.
1899	Matthews, Douglas Samuel.
1892	Maughan, John (*Special Forestry Certificate*, 1893).
1886	Maxwell, Francis William.
1894	May, William Charles.
1897	Mayne, Charles Millard.
1899	Meaby, Thomas James
1898	Meacher, Edward Ernest.
1898	Meacher, Sydney George.
1892	Mellenfield, James Henry.
1893	Mellor, James Frederick.
1887	Melrose, Frank.
1895	Menmuir, Robert William.
1892	Menzies, Robert.
1894	Mercer, Charles Edward.
1899	Meredith, Percy William.

Members who have Passed the Professional Associateship Examination—continued.

1899 MERRICK, FREDERICK WALTER
1890 MERRY, ARTHUR WALKER.
1896 MEYER, HORACE LEYCESTER.
1898 MILBOURNE, JOHN SEYMOUR.
1894 MILLER, FREDERICK WILLIAM.
1892 MILLER, GEORGE FREDERICK.
1900 MILLS, ARTHUR ERNEST.
1891 MITCHELL, GEORGE SHARMAN.
1894 MITCHELL, LEWIS.
1884 MIXER, EDWARD.
1899 MOAT, ERNEST WILLIAM.
1896 MOERAN, ARCHIBALD EDWARD.
1897 MOLYNEUX, FRANK EUSTACE.
1890 MOLYNEUX, HERBERT ERNEST.
1893 MONSON, HENRY JOHN.
1883 MOORE, HAROLD EDWARD.
1896 MOORE, HUGH ARMYTAGE.
1900 MORLE, DENZIL ADAIR BARTLETT.
1898 MORRIS, ARTHUR.
1892 MORRIS, RICHARD PERCIVAL.
1894 MORRIS, WILLIAM HENRY.
1892 MORRISH, HUGH KENNETH.
1893 MORRISON, DANIEL.
1893 MORRISON, GERALD DONALD.
1890 MOULD, GRAHAM HARLEY.
1883 MOYES, JOHN HELENUS.
1889 MUIR, JAMES (*Institution Prize*, 1889).
1891 MULLER, JOHN JOSEPH.
1898 MULLETT, HENRY THOMAS.
1899 MUMBY, ELVIN FOWLER.

1898 NESBITT, JOHN OSCAR.
1894 NEUBRONNER, HARRY ALFRED.
1899 NEWMAN, HENRY ARTHUR.
1892 NEWMAN, SAMUEL FRANK.
1900 NEWMAN, WALTER PHILIP.
1896 NEWTON, EDWIN BENNETT BRIERLEY.
1894 NICHOLLS, EDWARD ALFRED.
1888 NICHOLSON, EBENEZER.
1898 NICHOLSON, GUY MURRAY.
1896 NOBLE, EDMUND JAMES.
1890 NOCKOLDS, ALFRED GEORGE.
1888 NOCKOLDS, MARTIN CHARLES HUBERT.
1893 NORMAN, JAMES NOEL.
1895 NUTTALL, HERBERT.
1898 NUTTER, JOHN.

1891 OAKLEY, CHRISTOPHER PERCIVAL.
1890 OAKLEY, JOHN HUBERT.
1899 O'BRIEN, DONOUGH RICHARD.
1890 OGDEN, MICHAEL GUY.
1897 OGILVIE, ROBERT MATHEWSON.
1896 OLDNALL, ROGER WILLIAM.
1898 ORCHARD, SIDNEY SAMUEL.
1898 ORWIN, CHARLES STEWART.
1896 OSBOURN, EDWARD.
1896 OSENTON, CHARLES.
1890 OSENTON, GEORGE, JUN.
1892 OUVRY, PETER ARNOLD.
1892 OVENDON, CHARLES.

1894 PAGE, STANLEY HATCH.
1897 PAICE, WILLIAM, JUN.
1893 PAIN, GEORGE LLOYD.
1883 PAIN, JAMES.
1894 PAIN, WILLIAM HENRY.
1888 PALAMOUNTAIN, JOSEPH WILLIAM.
1899 PALLISER, WILLIAM ARTHUR.
1891 PALMER, WILLIAM EDWARD KING.
1892 PARKER, FREDERIC WILLIAM.
1900 PARKER, HOWARD.
1895 PARKS, WALTER.
1897 PARNACOTT, ARTHUR CHARLES.

Members who have Passed the Professional Associateship Examination—continued.

1889 Parris, Charles John.
1899 Parry, Herbert Mostyn.
1887 Parry, Richard.
1894 Parry, Richard Frederick.
1890 Partridge, Edward John.
1896 Patch, Shirley Hutchins.
1895 Paul, John William.
1883 Paull, Alan.
1896 Pearce, Charles Frederick.
1898 Pearce, Dudley Francis.
1898 Pearce, Francis Arthur.
1893 Pearce, Fred. W.
1896 Pearse, Octavius Burroughes
1895 Pearson, Harry John.
1893 Pearson, Howard.
1898 Pease, Charles Edward.
1893 Pegge, John Thomas.
1897 Peebles, Philip.
1897 Peppercorn, Henry McArthur.
1896 Peppercorn, John Arthur.
1889 Perkins, Joseph.
1886 Perkins, Walter Frank.
1900 Perks, Hugh Earl.
1885 Perks, Sydney.
1900 Perrins, George Lathom.
1899 Petch, John Stonehouse.
1894 Phillips, Francis John.
1894 Phillips, William.
1887 Phillips, William Dearlove (*Special Prize*, 1887).
1886 Physick, Walter Frederick (*Institution Prize*, 1886).
1895 Piercy, Frederic Onslow.
1883 Pilditch, Philip Edward.
1890 Pinder, Richmond.
1897 Pineger, James Reginald.
1897 Pinfold, Francis Arthur.
1896 Pinney, Frederick Wyldbore Digby.
1900 Pinson, Gilbert.
1900 Pitt, Philip Septimus.
1900 Plant, William.
1900 Pole, Alexander Charles Reginald.
1890 Potter, Herbert George.
1899 Potter, Shirley Herbert.
1894 Powell, Charles Reginald Evernden.
1892 Prall, Herbert Alexander.
1890 Prall, Herbert Edward.
1886 Prater, Thomas Herbert.
1899 Pratt, Frank Percy.
1888 Preston, Samuel David.
1897 Price, Capel Hereward.
1892 Price, Richard Arnold.
1898 Priestman, Alfred Tuke.
1894 Pritchard, Herbert Alfred.
1899 Protheroe, Alfred Ernest.
1895 Protheroe, William Sudbury
1889 Puckridge, Percival Martin.
1888 Punchard, Frederick Burt.
1895 Purvis, Charles James.
1895 Pye, George Henry.
1896 Pyle, Benjamin Thomas Rice.

1900 Raffety, Harold Vezey.
1892 Raffety, Herbert William.
1885 Rand, John.
1899 Ransom, Thomas Reginald.
1898 Rawston, Charles Oliver.
1894 Read, Walter Herbert.
1898 Redfern, Charles Fredk.
1898 Reed, Richard George Gordon (*Special Prize*, 1898).
1899 Reeve, Douglas William.
1896 Reffell, Charles Arthur.
1896 Richardson, Arthur Bayliffe
1899 Richardson, Ernest Edward.
1896 Richardson, James, Jun.
1891 Richardson, Oliver Arthur.
1896 Rickards, Robert Hillier Traherne Anson.

Members who have Passed the Professional Associateship Examination—continued.

1899	Riddett, Maurice Charles.
1897	Ridley, Percy Edward.
1896	Rivers, Charles Edwin.
1898	Robbins, Walter Francis.
1900	Roberts, John.
1894	Roberts, Joseph Wm. George.
1898	Robertson, Henry Charles.
1891	Robins, Philip Seymour.
1887	Robinson, Alfred Whitmore.
1891	Robinson, Henry Herbert.
1896	Robinson, John Brooke Wood.
1900	Robinson, Josslyn Alleyne.
1897	Robinson, Ralph Eteson.
1897	Robinson, Theodore Richard.
1896	Rogers, Horace Mordaunt.
1898	Rogers, Percy Willben.
1890	Rogers, Thomas George.
1883	Rolleston, William Gustavus Stanhope.
1886	Roods, Alfred.
1896	Rook, Joseph Taylor.
1888	Roper, John Simpson.
1899	Rowlandson, Samuel Messiter.
1889	Rowley, William Taylor.
1886	Ruddle, Frank J.
1897	Ruddle, Frederick Charles.
1883	Rundle, Edward Collins.
1899	Rutley, Arthur Dennett.
1899	Rutter, Arthur Lionel.
1884	Sadler, George William, Jun.
1897	St. Aubyn, Belville Molesworth.
1894	Saise, Alfred John.
1893	Saker, Sydney.
1893	Sale, Arthur Reed.
1897	Salt, Harold Crossley.
1887	Salt, Reginald Nowell.
1889	Sampson, William.
1899	Sanday, William Henry.
1899	Sandell, Stanley Lunau.
1895	Sandford, Charles Sidney.
1883	Satchell, Charles (*Specia Prize*, 1883).
1889	Satchell, Herbert Arnold.
1889	Saunders, Charles Herbert.
1900	Saunders, Edgar Walter.
1890	Savill, Edwin.
1894	Sawyer, John Ashton.
1900	Schofield, Peter.
1896	Scoble, Herbert Thomas.
1894	Scorer, Alfred George.
1894	Scott, Archibald Lacy.
1895	Scrivener, John Charles.
1898	Searle, Sydney.
1896	Secker, John Eustace.
1893	Seddon, George Farquharson.
1897	Sedgwick, Alfred Sidney Edward.
1891	Sedgwick, Rupert William.
1897	Seel, Robert Harold.
1889	Selby, Frank.
1884	Selby, John Basely (*Bracketted Special Prize*, 1884).
1898	Seller, Frank Russell.
1896	Sexton, George Alexander
1887	Shaw, Arthur.
1897	Shearburn, Harry.
1897	Shearer, James Hughan.
1898	Sheldon, Harold.
1900	Shettle, Edward Gurney.
1896	Shorney, Arthur Shepherd.
1895	Shufflebotham, John Henry.
1899	Simpson, John Henry.
1897	Simpson, Leslie Shepherd.
1894	Skeat, Arthur Percival.
1895	Skingle, Alfred Charles.
1892	Skipper, Henry Herbert.
1894	Skrimshire, Samuel.

Members who have Passed the Professional Associateship Examination—continued.

1896	Skues, Charles Ayre Mackenzie.
1890	Slater, Charles Frederick.
1893	Sly, Joseph Townson.
1896	Sly, William.
1894	Smith, Alexander George.
1896	Smith, Arthur Plumbe.
1895	Smith, Charles Gordon.
1899	Smith, Douglas.
1893	Smith, Frank Braybrooke.
1888	Smith, Frank William.
1898	Smith, George Henry.
1890	Smith, James.
1899	Smith, John Ambrose.
1897	Smith, Sydney Arthur.
1895	Smithells, Edwin.
1890	Snailum, Walter Wadman.
1897	Snow, Henry Cyprian.
1897	Southcombe, John Charles.
1895	Southorn, Charles Herbert.
1891	Soutter, Ernest.
1893	Sowels, William Clowes.
1896	Sparrow, William Hugh.
1898	Speakman, John McClure.
1890	Spelman, William Wilton Rix.
1897	Stacey, Frederick Charles Webster.
1889	Stainton, Francis Charles.
1893	Staley, Albert Henry.
1898	Stallard, Harrold Orlando.
1895	Standen, Arthur Carnegie.
1897	Stanford, George.
1898	Stanton, Frederick William Schultheiss.
1893	Stapledon, Ernest Allen.
1900	Stead, Edward John.
1899	Stewart, George Pakenham.
1900	Stewart, Henry Pakenham.
1899	Stimson, Edward Frederick.
1897	Stimson, Herbert Percy.
1900	Stockings, Arthur Perry.
1897	Stokes, Hugh Charles.
1900	Stone, Cyril Frank.
1897	Stoneham, Edward Russell.
1896	Straker, Howard.
1894	Strouts, Lewis Herbert.
1900	Strudwick, Frank Edward.
1896	Stubbing, Richard Webb.
1888	Stucké, William Henry.
1894	Stupart, Charles Walter.
1884	Sturge, Theodore.
1885	Sturgess, John Moore.
1889	Sturley, Arthur Dyson.
1890	Summerfield, Joseph Charles.
1899	Sutcliffe, James Henry.
1898	Sutton, Frederick Stanley.
1898	Swan, Harrold.
1897	Swanwick, Bruce.
1887	Swetenham, Henry.
1899	Tait, Frank Vincent.
1894	Tallent, Edwin James.
1896	Tate, Joseph George.
1889	Taylor, Harry William.
1896	Taylor, John Francis White.
1900	Taylor, William Henry.
1893	Tee, Samuel Clifford.
1891	Temple, Frederick Wilson.
1899	Terry, Francis William.
1899	Terry, Frank Treacher.
1894	Tewson, Leonard.
1893	Theakston, William Pease.
1896	Theobald, John Medows.
1898	Thomas, Charles John Howell.
1892	Thomas, Edward Morgan Dawson.
1899	Thomas, George.
1894	Thomas, Illtyd.
1898	Thomas, William James Edgar.

Members who have Passed the Professional Associateship Examination—continued.

1894	Thompson, Claude William George Hugh.
1893	Thompson, Frederic Hubert.
1897	Thompson, Harold Stuart.
1894	Thompson, Joseph Atherden.
1894	Thompson, Roland O'Brien.
1900	Thorold, James Ernest.
1894	Thring, Douglas Theodore.
1891	Thurgood, Albert Edward.
1899	Thurgood, Leonard Fielder.
1900	Tiffin, Thomas Edward, A.M.I.C.E.
1899	Tighe, Arthur.
1888	Tilly, Hubert Douglas.
1900	Timbrell, Alan.
1900	Tonson-Rye, John Reginald.
1892	Tory, John Edward, Jun.
1896	Town, Henry Annandale.
1894	Townend, William.
1900	Townly, Ronald Starkey.
1890	Townsend, George James.
1883	Treadwell, Henry John.
1897	Trehearne, Alfred Frederick Aldridge.
1898	Tremlett, Walter William.
1898	Trent, William Edward.
1891	Tuckett, Percival Fox.
1897	Turner, Benjamin Franklin.
1897	Turner, Drysdale.
1899	Turner, Henry.
1897	Turner, Herbert.
1886	Turner, Percy.
1900	Turner Vincent.
1889	Tyler, James William.
1893	Tyler, William.
1899	Type, Marcus Oswald.
1900	Upsdale, Andrew Reed.
1886	Vale, Henry.
1897	Veit, Leonard James.
1892	Venning, Alfred John Meybohn.
1890	Verity, Ernest George.
1895	Vinten, Harold Bertram.
1900	Wacher, Thomas Blake.
1887	Wade, Henry.
1889	Wain, George Sparrow.
1893	Waldram, Robert Edward.
1895	Walker, William Selves.
1896	Wallis, John David.
1900	Walsh, Frederick Leopold Morfee.
1900	Walter, Thomas James.
1897	Walton, Edgar Thomas.
1900	Walton, Leon Maitland.
1898	Ward, Martin Hammond.
1898	Waring, Holt.
1898	Warmington, Herbert Andrew Cromartie.
1896	Warran, William Ernest.
1896	Warwick, George Ernest.
1887	Warton, Wilfred.
1897	Waterfield, Horace Clare.
1900	Waters, Frank.
1890	Watson, Claude Henry.
1899	Watson, David Alexander.
1895	Watson, Herbert John.
1884	Watson, James Bruce.
1885	Watson, John, Jun.
1893	Watson, William James.
1898	Weall, John Graham.
1892	Weatherhead, David Wilkinson.
1898	Weatherill, George Ford.
1897	Weatheritt, James.
1896	Weaver, Henry Percival Francis.
1892	Webb, Frederick Noel.
1899	Webber, Henry Stanton.
1890	Webster, Hugh Calthrop.
1898	Weekes, Cyril Swaffer.
1897	Weir, James Scott.
1899	Wells, Frederic Beauchamp.
1892	Wells, William Henry.

Members who have Passed the Professional Associateship Examination—continued.

1898	Welsh, Hugh.
1893	West, Charles Henry Edward
1899	West, Herbert James.
1900	West, Sidney Herbert.
1899	Wetenhall, Edward Box, A.R.I.B.A.
1900	Whatley, Ernest James.
1896	Wheatley, Stephen Gladstane.
1887	Wheeler, Charles Trevor Ogle.
1892	Wheeler, John Henry.
1900	Wheldon, Martin Lowish (*Driver Prize*, 1900; *Penfold Silver Medal*, 1900).
1893	Whitaker, Ernest Victor.
1900	White, Benjamin William.
1895	White, Walt. Ernest Coates.
1895	White, William, Jun.
1899	Whiteley, Cyprian Charles Oswald.
1894	Whittaker, John Dronsfield
1900	Whitten, George Jackson.
1895	Whitton, Percy.
1899	Wigley, Sidney Prudden.
1896	Wigram, Henry Joseph.
1898	Wigram, Reginald Spencer.
1895	Wilde, Sidney Algernon.
1899	Wilkinson, Percy Newton.
1891	Wilks, Ernest Stringer.
1899	Williams, Arthur Codrington.
1897	Williams, Daniel Smith.
1894	Williams, Henry Cuthbert.
1898	Williams, Peter Lloyd Armstrong.
1900	Williams, Richard Ernest Havard.
1893	Willis, Edward.
1896	Willoughby, Charles Albert.
1896	Wilson, Frederick Robert.
1891	Wilson, James Culvert.
1898	Wilson, John.
1892	Wilson, John Hayes.
1896	Wilson, Lawrence Richard.
1887	Wilson, William Edward.
1897	Wilson, James Percy.
1891	Windley, Henry Chadwick.
1899	Witham, James Bernard.
1893	Wonnacott, Ernest William Malpas.
1898	Wontner-Smith, Percy.
1890	Wood, Charles Bruce.
1896	Wood, John Edward.
1894	Wood, Leslie Stuart.
1899	Woodcock, Frank Sydney.
1898	Wood-Martin, Henry Roger Bromhead.
1892	Woods, Arthur George.
1897	Woof, Robert Stephenson.
1886	Woolnough, John William.
1896	Woolnough, Tom.
1896	Wordsworth, Christopher.
1887	Worthington, James Scott.
1897	Wright, Ernest Beresford FitzHerbert.
1894	Wright, Philip Chetwood.
1899	Wright, Thomas Henry.
1897	Wrightson, John Frederick Hutton.
1893	Wrightson, Robert Garmondsway
1894	Wyatt, Archibald.
1898	Wyatt, Herbert Guy Buckell.
1893	Wyles, John Walter.
1899	Yewdall, Francis Edward.
1891	Young, Harry Austin Lindsay.
1898	Young, James Dawbarn.
1900	Young, Kenneth James.
1897	Young, Thomas John.
1895	Young, William.

Members Transferred since the publication of the January List from the Class of Professional Associates to that of Fellows.

Assiter, Harry G.	19, Old Queen Street, Westminster, S.W.
Banks, Frederick Stuart Angus	4, Chichele Road, Cricklewood, N.W.
Barker, Frederick George	3, Bucklersbury, E.C.
Burtenshaw, Albert	Hailsham, Sussex.
Clarke, Ernest Seymour	2, Lancaster Place, Strand, W.C.
Cochrane, William James	Woodlands, Hetton-le-Hole, Durham.
Dangerfield, Thomas Samuel	14, St. George's Terrace, South Kensington, S.W.
Daubney, Charles Archibald	1, Wellington Road, Peckham, S.E.
Eve, Charles Gerald	Kitley Estate Office, Yealmpton, near Plymouth, Devon.
Furmedge, John Harris	Estate Office, Lucknam, Chippenham, Wilts.
Gate, Henry Arthur Armytage	20, Mecklenburgh Square, W.C.
Harrison, George John Robertson	30, Larkhall Rise, Clapham, S.W.
Healing, Oswald Judd	11, Manor Villas, Church End, Finchley, N.
Holl, Mackintosh Meleng	Sywell, Northamptonshire.
Kerr, John Murray	Summerfield Park, Llanidloes, Montgomeryshire.
Kingsford, Percy Hamilton	24, High Street, Canterbury, Kent.
Nockolds, Alfred George	Saffron Walden, Essex.
O'Brien, Donough Richard	16, Upper Mallow Street, Limerick, Ireland.
Palmer, William Edward King	Huntingdon Lodge, New Malden, Surrey.
Pearse, Octavius Burroughes	Lower Green, Tettenhall, Wolverhampton.
Pinder, Richmond	49, Upper Baker Street, N.W.
Richardson, Arthur Bayliffe	83, Bishopsgate Street Without, E.C.
Skues, Charles Ayre Mackenzie	9 and 10, Tokenhouse Yard, E.C.
Stanford, George	20, Waldeck Road, Ealing, W.
Stewart, George P.	21, Westland Row, Dublin.
Stewart, Henry P.	6, Leinster Street, Dublin.
Thomas, Charles John Howell	The Laurels, Swansea, Glamorganshire.
Thomas, Illtyd	17, Quay Street, Cardiff, Glamorganshire.
Upsdale, Andrew Reed	738, Romford Road, Manor Park, E.

Members Transferred,—*continued.*

Warmington, Herbert Andrew Cromartie	11, Waterloo Place, Pall Mall, S.W.
Wood, Leslie Stuart	66, Easton Street, High Wycombe, Bucks.
Wood-Martin, Henry Roger Bromhead	Cleveragh, Sligo, Ireland.
Wyatt, Herbert Guy B.	10, West Pallant, Chichester, Sussex.

Members who have Died since the publication of the January List.

HONORARY MEMBER:

Wantage, the Right Hon. Lord, V.C., K.C.B.	Overstone Park, Northampton.

FELLOWS:

Barr, James	Whiteshaw, Carluke, Lanarkshire.
Boyes, Henry Cowell	Ormond House, Great Trinity Lane, E.C.
Cates, Arthur	12, York Terrace, Regent's Park, N.W.
Cross, John	77, King Street, Manchester.
Dearle, William Henry	Belmont, Clifton Road, Norbiton.
Fair, Jacob Wilson	Haigh Hall, Wigan.
Fisher, Edward Knapp	Market Harborough.
Foster, Henry Edwin	6, Poultry, E.C.
Green, Samuel	128, St. Swithin's Lane, E.C.
Lawrence, Peter	50, Frederick Street, Edinburgh.
Norris, Walter Henry	60, Fore Street, Hertford.
Pearson, Alfred	Estate Office, Dukinfield.
Randall, Richard	Royal Engineers' Office, Curragh Camp, Ireland.
Ransford, Benjamin Herbert	14, Bennett Street, Bath.
Smellie, Thomas Davies	209, St. Vincent Street, Glasgow.

PROFESSIONAL ASSOCIATES:

Poggio, Eloi John	Public Offices, Dyne Road, Kilburn, N.W.
Smith, Frederic	Loddington, Maidstone.
Woodward, Walter Henry	69, Kennington Oval, S.E.

ASSOCIATE:

Batten, John Winterbotham, K.C.	3, Harcourt Buildings, Temple, E.C.

COLONIAL FELLOW:

Parry, Osborn Bartlett	Surveyor-General's Office, Kingston, Jamaica, B.W.I.

List of Provincial Committees.

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(A) NORTHUMBERLAND AND DURHAM COMMITTEE.

Chairman.

THOMAS JOHN ARMSTRONG, 14, Hawthorn Terrace, Newcastle-on-Tyne.

AYNSLEY, ROBERT JOHN ...	Gosforth, Newcastle-on-Tyne.
BAINBRIDGE, ROBERT STAGG	Keverstone, near Staindrop, Durham.
BOLAM, WILLIAM THOMAS...	Cross House, Westgate Road, Newcastle-on-Tyne.
BRYDON, ROBERT...	The Dene, Seaham Harbour, Durham.
CLARK, JOHN MCCLARE ...	Haltwhistle, and Hexham, Northumberland.
CLARK, NATHANIEL	Beamish Park, Beamish R.S.O., Co. Durham.
COCHRANE, WILLIAM JAMES	Woodlands, Hetton-le-Hole, Co. Durham.
CURRY, HENRY JOHN	58, High Street, Stockton-on-Tees.
DURLACHER, ALEXANDER PERCY	3, Otterburn Villas North, Jesmond, Newcastle-upon-Tyne.
EADE, ARTHUR WILLOUGHBY FRENCH	Branson House, Darlington.
FORSYTH, THOMAS HILLS ...	39, Northumberland St., Newcastle-on-Tyne.
HEDLEY, JOHN HUNT	7, Ashbrooke Terrace, Sunderland.
JAMES, CHRISTIAN HUGH ...	Rudchester, Wylam-on-Tyne.
MILLER, JOHN EZRA	12, Belle Vue Road, Sunderland.
OLIVER, CHARLES EDWARD	Selby Lodge, Consett, Co. Durham.

Peirson, Henry Thomas	Brancepeth, R.S.O., Co. Durham.
Rodham, John	16, Finkle Street, Stockton-on-Tees.
Rowlandson, Christopher	The College, Durham.
Sample, Charles Herbert	Matfen, near Newcastle-on-Tyne.
Sample, Thomas	Bothal Castle, Morpeth, Northumberland.
Sample, William Collings	Tritlington Hall, Morpeth, Northumberland.
Taylor, Harry William	St. Nicholas Chambers, Amen Corner, Newcastle-on-Tyne.
Taylor, John Walton	31, Westgate Road, Newcastle-on-Tyne.
Wall, George Young	Exchequer Buildings, Durham.
Wallace, Henry	Trench Hall, Gateshead-on-Tyne.
Wells, Edwin	Barnard Castle, Co. Durham.
Wilson, Sir Jacob	Chillingham, Alnwick.

Total, 28 Members.

(B) CUMBERLAND AND WESTMORELAND COMMITTEE.

Chairman.

Frederick Punchard, Underley Estate Office, Kirkby Lonsdale, Westmoreland.

Banks, John	Kendal, Westmoreland.
Birkett, Tom	Foxton House, Penrith, Cumberland.
Bowman, John James	Estate Office, Netherby, Carlisle.
Hayton, Joseph William	9, Bank Street, Carlisle.
Hayton, Pattinson	9, Bank Street, Carlisle.
Heskett, William James	St. Andrew's Churchyard, Penrith, and Viaduct Chambers, Carlisle, Cumberland.
Hoggarth, Arthur	Kendal, Westmoreland.
Hoggarth, Edwin	Kendal, Westmoreland.
Holme, John	Owlet Ash, Milnthorp, Westmoreland.
Hudson, James	Penrith, Cumberland.
Little, William	Hutton Hall, Penrith, Cumberland.
Potts, James	Estate Office, Workington, Cumberland.
Richardson, George	5, Lonsdale Street, Carlisle.
Rook, Joseph Taylor	23, Spencer Street, Carlisle.
Sly, William	Estate Office, Somerset House, Whitehaven, Cumberland.
Stanley-Dodgson, Stanley Dickenson	Estate Office, Somerset House, Whitehaven, Cumberland.
Watt, Alexander	Ravenglass, Carnforth.
Webster, Alexander	100, Highgate, Kendal, Westmoreland.
Woof, Robert Stephenson	Estate Office, Lowther, Penrith, Cumberland.

Total, 20 Members.

(C) LANCASHIRE AND CHESHIRE.

Chairman.

Henry Hartley, Bristowe Chambers, 8, Harrington Street, Liverpool.

Bancroft, Fredk. Herbert	88, Mosley Street, Manchester.
Banks, Thomas	60, King Street, Manchester.
Barrow, Thomas Robert...	Post Office Avenue, Southport.
Batey, Henry Simpson ...	51, King Street, Manchester.
Beckwith, Henry Langton	3, Cook Street, Liverpool.
Bertwistle, James	1, Tackett's Street, Blackburn.
Birch, Walter de Hoghton	Hoghton Estate Office, Walton Hall, Preston.
Bowden, John	14, Ridgefield, Manchester.
Bradshaw, Harry Greaves	28,Barton Arcade,St. Ann's Sq.,Manchester.
Brady, Charles Alldis ...	17, Warren Street, Stockport.
Brady, Ralph Hollinshed	78, Cross Street, Manchester.
Brady, William Hollinshed	17, Warren Street, Stockport.
Bridgford, Ernest James	28, Cross Street, Manchester.
Bridgford, Col. Robert, C.B.	28, Cross Street, Manchester.
Brocklebank, John	58a, Yorkshire Street, Rochdale, and Crossbrook, Todmorden.
Campbell, Henry Hunter	Sutton Hall, St. Helen's.
Carswell, William	Capesthorne, Chelford, Cheshire.
Cartwright, Alfred Stott	Council Office, Wilmslow, Cheshire.
Cartwright, Joshua	Peel Chambers, Bury, Lancashire.
Cross, William Haslam ...	77, King Street, Manchester.
Dorning, Arthur Harry...	41, John Dalton Street, Manchester.
Dunlop, Dugdale Oakeley	20, Booth Street, Manchester.
Eagle, William	Westminster Buildings, Brown Street, Manchester.
Earle, Thomas Algernon...	90, King Street, Manchester, and Liverpool.
Earnshaw, Jacob	78, King Street, Manchester.
Ellis, Francis, Jun.	Trafford Park, Patricroft, near Manchester.
Fair, James Stretton ...	4, Winckley Street, Preston.
Fair, Thomas	Estate Offices, Lytham.
Fairclough, William ...	Leigh, Lancashire, and 60, King Street, Manchester.
Fletcher, Thomas	Dunkenhalgh, Clayton-le-Moors, near Accrington, and 46, Fishergate, Preston.
Fowler, Alfred Mountain	1, St. Peter's Square, Manchester.

Fowler, Henry	63, Dale Street, Manchester.
Gradwell, Richard Arthur	29, Victoria Street, Blackburn.
Gregson, George Ernest	11, Chaple Street, Preston.
Hall, John Herbert	6, South St., Albert Sq., Manchester, 2, Durham Road, Altrincham, and Knutsford, Cheshire.
Hanson, Amos	35, Church Street, St. Helen's.
Hargreaves, Stephen	Brabyns Estate Office, Manor House, Marple, Cheshire.
Holden, John	5, St. James' Square, Manchester.
Holt, George Henry	20, Richmond Terrace, Blackburn.
Hopkinson, Alfred	15, Agar Street, Bury, Lancashire.
Hurrell, John Weymouth	25, Brazennose Street, Manchester.
Jackson, Charles	23, Brazennose Street, Manchester.
Jones, Isaac Matthews	The Town Hall, Chester.
Johnston, Walter Henry	County Offices, Preston.
Kirby, Edmund	5, Cook Street, Liverpool.
Lancaster, Chas. Holland	Union Offices, Brougham Terrace, West Derby Road, Liverpool.
Larmuth, George Horatio	Wilton Chambers, 10, St. Ann's Square, Manchester.
Linaker, Charles Edward	Frodsham, Chester.
Lomas, Albert Daniel	Estate Department, Lancashire and Yorkshire Railway, Manchester.
Loring, John	The College, Doddington, Nantwich.
McCracken, William	Englesea House, Crewe.
MacIver, Colin	23, Bold Street, Warrington.
Maxwell, Francis William	41, Corporation Street, Manchester.
Meade, Thomas de Courcy	The Town Hall, Manchester.
Meller, William Galloway	22, Cooper Street, Manchester.
Mills, William Edward	49, Hamilton Square, Birkenhead.
Myres, John James	15, Chapel Street, Preston, and Blackpool.
Nesbitt, John Oscar	6, Linefield Terrace, Levenshulme, Manchester.
Nevett, Francis Walter	34, Brackenbury Road, Preston.
Nevett, Thomas	41, Fishergate, Preston.
Nuttall, Herbert	20, Market Street, Bury, Lancashire.
Owen, Richard Newsham	Haughton, Tarporley.
Pain, Coard Squarey	14, North John Street, Liverpool.
Park, Philip Samuel	The Oaks, Penwortham, Preston.
Park, William Philip	18, Winckley Street, Preston.
Parker, The Hon. Cecil Thomas	Eccleston, Chester.
Parmeter, Frank	Middle Lees, Clitheroe.
Pierson, Charles	29, Cooper Street, Manchester.
Rea, John Marcus Beaumont	8, Winckley Street, Preston.

Richmond, Walter Coleridge	Ivy Rock, Vicar's Cross, Chester.
Robinson, George Edward	9, Tackett's St., Blackburn, and Clitheroe Castle.
Roper, John Simpson	32, Market Square, Lancaster.
Secker, John Eustace	Estate Office, Warrington.
Shelmerdine, Henry	Estate Offices, L. & Y. Railway, Hunt's Bank, Manchester.
Smith, John Thompson	Tattondale, Knutsford, Cheshire.
Stocks, Frederick William	Telephone Buildings, Baron's Quay, Northwich.
Suthers, James	Harley Villas, Todmorden.
Taylor, Thomas Walters	25, Brazennose Street, Manchester.
Thomas, Glegge	Cheshire Lines Committee Central Station, Liverpool.
Thompson, Francis William	18, Wood Street, Bolton.
Wainwright, Thomas Taylor	13, Union Court, Castle Street, Liverpool.
Wallis, John David	20, Booth Street, Manchester.
Watts, Samuel Lingard	40, South King St., Cross St., Manchester.
Whalley, Henry Shaw	3, Hunter Street, Town Hall Sq., Chester.
White, John	Warrington, Lancashire.
Wilson, Lawrence Richard	St. Andrew's Chambers, Albert Square, Manchester.
Wilson, Thomas Silk	Albert Square, Manchester.
Wilson, William Henry	29, Fountain Street, Manchester.
Wolfenden, Thomas	54, Hall Street, Southport.
Wrennall, William	9, Harrington Street, Liverpool.
Young, Edward Herbert	Central Chambers, South Castle St., Liverpool.
Young, Oswald William	Mersey Docks and Harbour Board, Liverpool.

Total, 93 Members.

(D) YORKSHIRE COMMITTEE.

Chairman.

John Henry Hanson, 20, Ramsden Street, Huddersfield.

Abbey, Joe Burman	34a, New Street, Huddersfield.
Abbott, Robert Thomas G.	Whitley House, Malton.
Armistead, Richard	118, Main Street, Bingley.
Armytage, Sir George, Bart.	Kirkless, Brighthouse.
Bilson, John	23, Parliament Street, Hull.

Botterill, William	Brookside, Newland Park, Hull.
Bradley, William Edward	The Hall, Ebberston, York.
Broderick, Frederick Stead	Cogan Chambers, Bowl Alley Lane, Hull.
Broster, Robert Buck	Craven Bank Chambers, North St., Keighley.
Buckley, George	Tower Chambers, Halifax.
Butler, Charles	14, Queen Street, Huddersfield.
Clare, Edward Lovell	37, Park Square, Leeds.
Clarke, Christopher	Charlcot, Bedale.
Clarke, John William	Guisborough.
Clutton, William James	The Mount, York.
Cowgill, Brian Bollans Hird	13a, Piece Hall Yard, Bradford.
Cox, Edward Samuel	3, New Street, York.
Crowther, John Herbert	38, New Street, Huddersfield.
Demetriadi, Thomas Marsden	28, John William Street, Huddersfield.
Dransfield, Henry Brook	12, 13, and 14, Estate Buildings, Huddersfield.
Evans, William	New Walk, Beverley.
Farrer, John	Oulton, near Leeds.
Fawcett, John Mortimer	26, Albion Street, Leeds.
Fenwick, Thomas	Leeds.
Forbes, Charles Mansfeldt	14, New Street, York.
Fowler, Frederick	St. James' Street, Sheffield.
Fowler, Reginald William	3, Heartshead, Sheffield.
Fox, Charles James	7, Rawson Street, Halifax.
France, Arthur Alderson	99, Swan Arcade, Bradford.
France, Charles	99, Swan Arcade, Bradford.
Fryer, George	Conservancy Buildings, Whitefriar Gate, and Rose Villa, Bishop Wilton, near York.
Gott, Charles	8, Charles Street, Bradford.
Gott, Charles Henry	8, Charles Street, Bradford.
Gott, Frank	3, East Parade, Leeds.
Greaves, John Oldroyd	69, Westgate, Wakefield.
Gregson, William	Baldersby, S.O. Yorks.
Hanson, John Henry	20, Ramsden Street, Huddersfield.
Hebblethwaite, Louis	Conservancy Buildings, and Anlaby Road, Hull.
Hepper, John	East Parade, Leeds.
Hindle, John	24, Bank Street, Bradford.
Hobson, Harry	Swinefleet, near Goole.
Hollis, Walter Dawson	26, Park Row, Leeds.
Horsfall, Richard	22a, Commercial Street, Halifax.
Horsfall, Richard Edgar	22a, Commercial Street, Halifax.
Innocent, Charles John	Sheffield.

Jackson, Benjamin Whitehead	7, Rawson Street, Halifax.
Jackson, Samuel	Tanfield Chambers, Bradford.
Jolly, John Hawkins	1, Dalton Terrace, The Mount, York.
Kaye, John Edward	Bretton Lodge, Wakefield.
Kelly, John George	West View, Pontefract.
Leather, George Herbert	Central Bank Chambers, Leeds.
Leather, William Beaumont	The Hollies, Leeds.
Lofthouse, Roger	62, Albert Rd., Middlesbrough-on-Tees.
Marriott, Arthur Sutcliffe	West Park Street, Dewsbury.
Marshall, Peter	3, Hartshead, Sheffield.
Massie, Frank	Tetley House, Kirkgate, Wakefield.
Oldroyd, Linley	5, Oxford Place, Leeds.
Peirson, George Brodrick	Baldersby, S.O., Yorkshire.
Piercy, Henry Onslow	The Elms, Lowthorpe.
Popple, John	19, St. Hilda's Terrace, Whitby.
Renton, George	1, Albert Street, Harrogate.
Richardson, John	Methley Park, Leeds.
Sampson, William	Beauchief Abbey, Sheffield.
Sandford, Charles Sidney	16, St. James Row, Sheffield.
Smith, Frederic Ellison	Tanfield Chambers, Bradford.
Smith, Harry Russell	Exchange Buildings, Bradford.
Smith, Wheater	15, Cheapside, Bradford.
Stirton, Thomas	Goldthorpe Farm, Old Cotes, Rotherham.
Todd, William Henry	County Buildings, Hull.
Townend, William	Park Farm, Seacroft, near Leeds.
Walker, Francis Elliott	Estate Office, Escrick, York.
Watson, John, Jun.	Wentbridge Lodge, Pontefract.
Wellstead, William Henry	Prince's Dock Chambers, Hull.
White, Alfred Edward	Town Hall, Hull.
Wilde, William	Brockett House, Sharrow, Sheffield.
Winn, Thomas	92, Albion Street, Leeds.
Woodhead, William Booth	18, Exchange Buildings, Bradford.
Wright, James	Rawcliffe, near Selby.

Total, 79 Members.

(E) SALOP AND HEREFORD COMMITTEE.

Chairman.

Henry James Wyley, Bridgnorth, Salop.

Ashdown, Augustus Harding	Uppington, near Willington, Salop.
Bather, John T....	9, The Square, Shrewsbury.
Brown, John Powles ...	21, East Street, Hereford.
Burd, Timotheus Henry ...	School Gardens, Shrewsbury.
Carnell, Sydney George	Estate Office, Condover, Shrewsbury.
Chichester, Richard Herbert	Cheswardine, Market Drayton, Salop.
Davis, Alfred Thomas ..	Shire Hall, Shrewsbury.
Dodgson, Wilfred Longley	The Court, Cleobury North, Bridgnorth, and 55, Broad Street, Ludlow.
Evans, William Ernest ...	School Gardens, Shrewsbury.
Fenn, Andrew Thomas Cranage	The Lodge, Bromfield, Shropshire.
Fenn, Thomas	Downton Castle, Ludlow.
Godsell, George Herbert	Palace Chambers, King Street, Hereford.
Griffiths, Edward	Knockin, near Oswestry.
Hall, William Timothy ...	College Hill, Shrewsbury.
Haywood, Henry	9, West Street, Hereford.
Haywood, William Mathews	9, West Street, Hereford.
Hickman, Thomas	College Court, Shrewsbury.
Lawford, William Robinson	Underhill, Oswestry.
Millyard, John William	Estate Office, Saltmarshe Castle, Bromyard.
Morris, Edward Henry ...	Chirbury, Salop.
Morris, William Henry...	West House, Chirbury, Salop.
Newill, Robert Henry ...	Lydbury North, Shropshire.
Owen, Henry	Dana Chambers, Shrewsbury.
Palamountain, Joseph William	Cloverley Estate Office, Whitchurch, Salop.
Parker, John	Mansion House, Hereford.
Thursfield, Thomas Howells	The Grange, Much Wenlock, Salop.
Tower, Brownlow Richard Christopher	Bridgewater Estate Office, Ellesmere, Salop.
Ward, Felix John	The Gardens, Lydbury North, Salop.
Wolley, Thomas John ...	Clungunford Estate Office, Aston-on-Clun, Salop.
Wyley, William John ...	2, School Chambers, Shrewsbury.

Total, 31 Members.

(F) DERBY AND STAFFORD COMMITTEE.

Chairman.

Henry George Duncalfe, 81, Darlington Street, Wolverhampton.

Arnold, William	23, George Street, Tamworth, Staffs.
Barnes, George Frederick	Estate Office, Wingerworth Hall, near Chesterfield.
Boothby, Henry Vernon	Estate Office, Keele, & Newcastle-under-Lyme.
Brailsford, Henry	Park Nook, near Derby.
Bruce, Robert Knight	Hathersage, by Sheffield.
Burton, Amos	Borough Engineer's Office, Hanley.
Byron, Augustus William	Sutton Estate Offices, Duckmanton, Chesterfield.
Eardley, John William	The Grove, Alfreton, Derbyshire.
Foden, Edward Antrobus	Teddesley Estate Office, Penkridge, Staffs.
Forshaw, Edward	Hanley, Staffordshire, and Springfields, Stramshall, Uttoxeter.
Fuller, Thomas Alfred	The College, All Saints, Derby.
Hardy, Richard Thomas Ash	Land Agency and Estate Offices, Carter Street, Uttoxeter, Staffs.
Harrison, Charles	179, Hornington Street, Burton-on-Trent.
Harrison, John Edward	Estate Office, Allestree, near Derby.
Heaton, George Herbert	Endon, near Stoke-upon-Trent.
Hubbersty, Henry Alfred	Buxton, Derbyshire.
Hussey, Robert	Eastfields, near Lichfield.
Inge, Charles Henry	Broom Leasoe, Whittington, Lichfield.
Jeudwine, William Wynne	Chesterfield.
Longsdon, Ernest Morewood	Town Hall, Bakewell.
Lynam, Charles	Stoke-on-Trent.
Margereson, Charles Frederick	New Square, Chesterfield.
Martin, Gilson	Chatsworth, Chesterfield.
May, Thomas Henry	Haslin House, Harpur Hill, Buxton.
Mynors, Walter Charles Towers	Little Ingestre, Stafford.
Nock, Benjamin Bowen	48, Queen Street, Wolverhampton.
Pearse, Octavius Burroughes	Lower Green, Tettenhall, Wolverhampton.
Rowland, Joseph Samuel	Bridge Chambers, Burton-on-Trent, Staffs.
Sampson, George	Beauchief Abbey (near Sheffield), Derby.

Sandy, Henry	Newport Road, Stafford.
Shaw, John	College Place, Derby.
Shaw, John, Jun.	The College, All Saints, Derby.
Tomlinson, Thomas	2, St. James's Street, Derby.
Thorpe, Christopher	Spring House, Calow, Chesterfield.
Turnor, Exsuperius Weston	The Green, Stafford.
Winterton, Harry John Campion	Walton Warren, Burton-on-Trent.
Winterton, William Moxon	St. Mary's Chambers, Lichfield.

Total, 38 Members.

(G) NOTTINGHAM AND LINCOLN COMMITTEE.

Chairman.

Samuel Kingston, Spalding, Lincs.

Abbott, William	Holbeach, Lincs.
Bailey, William Smith	4, Kirkgate, Newark-upon-Trent.
Barnes, John William James	Albion Chambers, King Street, Nottingham.
Beaumont, Charles	East Bridgford, near Nottingham.
Bell, Joseph Askew	Rufford Estate Office, Ollerton, Notts.
Booker, Frank William	7, Albion Chambers, King Street, Nottingham.
Calvert, Arthur Richard	14, Low Pavement, Nottingham.
Corby, Joseph Boothroyd	15, All Saints' Place, Stamford.
Crofts, Ewan Neville	Caythorpe, Grantham, Lincs.
Evans, Robert	Eldon Chambers, Wheeler Gate, Nottingham.
Hawley, Sir Henry Michael, Bart.	Tumby Lawn, Boston.
Haynes, Henry	Estate Office, Clifton, Nottingham.
Higgins, Frederic	Alford, Lincs.
Hine, George Thomas	Victoria Street, Nottingham.
Huskinson, Thomas Wm.	Epperstone Manor, Nottingham.
Huskinson, William Lambe	Manor House, Epperstone, Notts.
Legard, Digby Charles	Highington Hall, Lincoln.
Lister-Kaye, Charles Wilkinson	Osberton, Worksop, Notts.
Manners, Henry Alfred	Buckminster Park, near Grantham.
Mason, Charles	Westgate, Louth, Lincs.
Morris, Charles	The Lodge, Ratcliffe-on-Trent, Notts.

Parkin, William	Babworth, Retford, Notts.
Richardson, Charles ...	15, Barn Hill, Stamford, Lincolnshire.
Richardson, James	13, Barn Hill, Stamford, Lincolnshire.
Tindall, Charles William	Wainfleet, R.S.O., Lincolnshire.
Turner, Frederick John...	Mansfield Woodhouse, Notts.
Turner, Thomas Warner...	Welbeck Abbey, Worksop, Notts.
Turton, Edward James ...	Horkstow, Barton-on-Humber, Lincolnshire.
Vallance, Robert Frank...	Mansfield, Notts.
Walker, George Booth ...	Wainfleet, R.S.O., Lincolnshire.
Walker, Herbert	Albion Chambers, King Street, Nottingham.
Walker, Joseph	Lenton Avenue, The Park, Nottingham.
Walker, Joshua	Market Place, Retford, Notts.
Wigram, John	South Collingham, Newark, Notts.
Woolley, Reginald	Silver St., Lincoln, & South Collingham. Nottinghamshire.
Woolley, T. Cecil Smith	South Collingham, Newark, Notts.
Wordsworth, Robert Walter	Whitemoor, Ollerton, Nottinghamshire.
Wright, Charles William	21, Parkinson Street, Nottingham.

Total, 39 Members.

(H) MONMOUTHSHIRE AND SOUTH WALES COMMITTEE.

Chairman.

Robert Forrest, Windsor Estate Office, St. Fagan's, near Cardiff.

Barker, Geoffrey Lionel	Kilnback, Angel, Pembrokeshire.
Blake, George	Stradey Estate Office, New Road, Llanelly.
Blosse, Edward F. Lynch	Charles Street Chambers, Cardiff.
Coles, Samuel Hood Cowper	Penmyarth, Crickhowell, South Wales.
Corbett, Edward Wortley Montague	Bute Estate Office, Castle Street, Cardiff.
David, Edmund Ussher ...	Old Bank Chambers, 27, High Street, Cardiff.
Davies, John Morgan ...	roodvale, Llanwrda, South Wales.
Evans, Arthur Owen ...	Town Hall, Pontypridd.
Graham, Arthur Gore ...	"Brynawel," Usk, Monmouthshire.
Graham, William	Bank Chambers, Newport.

GRIFFITHS, WILLIAM	Gelley Wernen Estate, Llanelly, Carmarthenshire.
HARPUR, WILLIAM	Town Hall, Cardiff.
HITCHCOX, WILLIAM	Bank Chambers, Newport.
JONES, DAVID PUGH	Tymaur Road, Llandaff, Glamorganshire.
LEEDER, ERNEST HOLTHAM	46, Waterloo Street, Swansea.
LLEWELLIN, DAVID MORGAN	Glanwern Offices, Pontypool.
OWEN, THOMAS HENRY RULE	High St., Haverfordwest, Pembrokeshire.
OWEN, THOMAS RULE	High St., Haverfordwest, Pembrokeshire.
PRICE, FRANCIS HOLBORROW GLYNN	Longlands Place, Swansea.
REES, ITHEL TREHARNE ...	Guildhall Chambers, Cardiff.
REES, WILLIAM GEORGE ...	Holly House, Newport.
REES, WILLIAM JOHN	The Laurels, Swansea.
RIGG, CHARLES	24, High Street, Cardiff.
ROONEY, SAMUEL	Cefn Mabley Chambers, Quay St., Cardiff.
TANNER, WILLIAM	The Leys, Bryngwn Road, Newport.
THOMAS, CHARLES JOHN HOWELL	The Laurels, Swansea, Glamorganshire.
THOMAS, GEORGE	Queen's Chambers, Cardiff.
THOMAS, ILLTYD	17, Quay Street, Cardiff.
WANKLYN, PHILLIP ENDELL	Dixton, near Monmouth.
WARING, CHARLES EDWARD	15, The Walk, Cardiff.
WILKINS, WILLIAM	Pencastell, Llanelly.
WILLIAMS, GERALD GARNONS	St. John's Mount, Brecon.

Total, 33 Members.

(l) WARWICK AND WORCESTER COMMITTEE.

Chairman.

COL. GEORGE WHITTINGTON RAIKES, Ragley Estate Office, Alcester, Redditch.

BETTRIDGE, EDWARD	28, Waterloo Street, Birmingham.
BICKERTON-WILLIAMS, EDWARD	City Chambers, 82, New St., Birmingham.
BUCK, ALBERT.	Worcester.
BUCK, HERBERT WILSON ...	Pierpoint Street, Worcester.
CAVE, HENRY H.	Estate Office, Rugby.
CHAMBERLAIN, ARTHUR GEORGE RADDON	Leamington House, Malvern Wells.
CLARKE, ALFRED DUDLEY ...	Estate Office, Abberley, Stourport.
COUCHMAN, ROBERT EDWARD	35, Paradise Street, Birmingham.
DAWSON, GEORGE CROSBIE...	Daisyfield, Nuneaton.
DEER, EDWARD	Stratford-on-Avon.
DONNE, HENRY	Leek Wootton, Warwick.

Eayrs, John Thomas	Clarence Chambers, Corporation Street, Birmingham.
Evans, Walter Pearson	Caldwell, Nuneaton.
Everill, Frank	59, Foregate Street, Worcester.
Fayerman, George Metcalf	88, The Parade, Leamington.
Fiddian, William	Old Bank Offices, Stourbridge.
Fosbery, William Thomas Exham	Warwick.
Fowler, Gerard Edmund	21, Waterloo Street, Birmingham.
Fowler, Henry	6, Waterloo Street, Birmingham.
Fowler, Richard	118, Colmore Row, Birmingham.
Fowler, William	69, Temple Row, Birmingham, and Sutton Coldfield.
Gibson, Denston	21, Waterloo Street, Birmingham.
Gilpin-Brown, William Dundas	Starton, Kenilworth.
Grimley, Edwin Fearne	40, Temple Street, Birmingham.
Grimley, Thomas	40, Temple Street, Birmingham.
Hadley, Frank	59a, Temple Row, Birmingham.
Hedley, Robert Wilkin	31a, Colmore Row, Birmingham.
Hendriks, Henry	43, Cannon Street, Birmingham.
Holbeche, Robert Neville	21, Bennett's Hill, Birmingham.
Jenkins, Oswald	57, Colmore Row, Birmingham.
Joseland, Charles	Bank Buildings, Kidderminster.
Kenwrick, George	83, Colmore Row, Birmingham.
King, Henry	Stourbridge.
Lakin-Smith, Ernest	21, Waterloo Street, Birmingham.
Ludlow, Walter Robert	Dorridge, Knowle, Warwick, and 18, New Street, Birmingham.
Margetts, John William	12, High Street, Warwick.
Mason, William Arthur	31a, Colmore Row, Birmingham.
Mathews, George Spencer	15, Waterloo Street, Birmingham.
Mathews, Lewis Osler	15, Waterloo Street, Birmingham.
Parker, William Henry	3, Foregate Street, Worcester.
Pemberton, Charles Oliver Paget	69, Temple Row, Birmingham.
Pinney, Frederick Wyldbore Digby	6, Waterloo Street, Birmingham.
Price, John	The Council House, Birmingham.
Raffety, Herbert William	Leek Wootton, Warwick.
Righton, Edward Grantham	High Street, Evesham, Worcestershire.
Robins, William Henry	82a, New Street, Birmingham.
Roderick, John	2, Temple Row, West Birmingham.
Sayer, George William	Royal Engineer Office, The Barracks, Great Brook Street, Birmingham.

Smith, Frank	37, Cannon Street, Birmingham.
Smith, Frank William	Beauchamp Hill, Milverton, Leamington.
Smith, William	Abbott's Salford, Evesham.
Southorn, Charles Herbert	38, The Parade, Leamington Spa, Warwickshire.
Stallard, William	Sunny Lodge, Malvern Link, and Estate Office, Madresfield, Malvern Link.
Stewart, Samuel Parr	Arbury, Nuneaton.
Tomson, James John	The Chalet, King's Norton, nr. Birmingham.
Willmot, George Dyott	6, Waterloo Street, Birmingham.
Willmot, John	6, Waterloo Street, Birmingham.

Total, 58 Members.

(J) LEICESTERSHIRE, NORTHAMPTONSHIRE, AND RUTLAND COMMITTEE.

Chairman.

Charles Godfrey Bolam, Estate Office, Boughton House, Kettering, Northamptonshire.

Aris, John Whitton	Loys Weedon House, near Towcester, Northamptonshire.
Bletsoe, Henry Hopkinson	Thrapston, Northamptonshire.
Cave, Thomas Newman	Horton, Northampton.
Clare, Edward Lovell	33, Friar Lane, Leicester.
Clough-Taylor, Horace George	Friar Lane, Leicester.
Coales, Herbert George	Local Board Offices, Market Harborough.
Creswell, William Thomas	Royal Engineer Office, Weedon, Northamptonshire.
Dickson, Thomas Arthur	Estate Office, Overstone Park, Northampton.
Draper, Arthur Thomas	39, Friar Lane, Leicester.
Edmonds, John	The Estate Office, Drayton House, Thrapstone, Northamptonshire.
Everard, John Breedon	6, Millstone Lane, Leicester.
Fisher, Charles Browning	Hill Crest, Market Harborough.
German, George	Packington House, Ashby-de-la-Zouch.
German, Harry	Market Street, Ashby-de-la-Zouch, and Loughborough.
German, John	Ashby-de-la-Zouch.
German, John, Jun.	Huntingdon House, Ashby-de-la-Zouch.
Goodacre, John	5, Friar Lane, Leicester.
Goodacre, Robert Johnson	Friar Lane, Leicester.
Haigh, Thomas Frederick	2, Friar Lane, Leicester.

Hampton, Willie Thomas ...	Swan Street, Loughborough.
Hincks, Henry Thorp ...	Wigston Hall, Leicester.
Hodson, George	Town Hall, Loughborough.
Holl, Mackintosh Meleng	Sywell, Northamptonshire.
Holloway, Harry Hownam	Market Harborough.
Humphreys, Henry	Woodhouse, Loughborough.
Humphreys, John Henry ...	Woodhouse, Loughborough.
Joyce, John Hall	Blackfordby, Leicestershire, near Burton-on-Trent.
Lawrance, John	Shortacre, Peterborough.
Martin, Robert Frewin ...	Mountsorrel, Loughborough.
Merry, Thomas	2, Guildhall Road, Northampton.
Perkins, Joseph	Frisby-on-the-Wreake, Leicester.
Rolleston, Sir John Fowke Lancelot	Grey Friars, Leicester.
Rolleston, William Gustavus Stanhope ...	Grey Friars, Leicester.
Royce, David Needham ...	Oakham.
Royce, John	Oakham.
Sebastian-Smith, Charles	Friar Lane, Leicester.
Scriven, Richard George...	Castle Ashby, Northampton.
Thorpe, John	Nailstone, Nuneaton.
Thorpe, William...	Nailstone, Nuneaton.
Wade, George Tempest ...	Halford Street, Leicester.
Woodforde, Lionel Burnet	Milton Ferry, Peterborough.
Woolley, William Edward	The Red House, Loughborough.

Total, 43 Members.

(K) CAMBRIDGE, HUNTINGDON, NORFOLK, AND SUFFOLK COMMITTEE.

Chairman.

Bidwell, Charles, Ely, Cambridge.

Bacon, Frank Mace	Attleborough, Norfolk.
Bacon, Horace	Attleborough, Norfolk.
Bailey, Henry David Chinery	Fundenhall Grange, Norwich.
Beck, Arthur Clement ...	Castle Rising, King's Lynn, & Sandringham.
Beck, Edward William ...	16, Bank Street, Norwich.
Beck, Frank Reginald ...	Sandringham.
Bellingham, Archibald Turner	Cheveley Estate Office, Newmarket.

Bidwell, John Evans	St. Mary's, Ely, Cambridgeshire.
Bidwell, Philip Shelford	St. Mary's Street, Ely, Cambridgeshire.
Bird, John	Brampton, Huntingdon.
Blencowe, George	Bury St. Edmund's.
Boa, Andrew	Great Thurlow, near Newmarket.
Chalk, Henry Philip	Linton, Cambridgeshire.
Falcon, Michael	Horstead House, Norfolk.
Freuer, William	West Rudham, King's Lynn.
Garrard, Norton Burroughs	Cranley Hall, Eye.
Gayford, Henry John	Estate Office, East Raynham, Norfolk.
Gaze, Thomas William	Frenze Hall, Diss, Norfolk.
Grain, Arthur Tress	2, St. Andrew's Hill, Cambridge.
Hawkins, Charles	Downham Market, King's Lynn.
Hayward, Thomas William Alfred	Borough Surveyor, Sudbury, Suffolk.
Hornor, Charles Jared	32, Prince of Wales Road, Norwich.
Hornor, Francis	Queen Street, Norwich.
Ireland, Edwin Benjamin	Guestwick, East Dereham.
Jonas, Harry Marshall	27, Market Place, Cambridge.
John Looker	High Street, Huntingdon.
Mills, Samuel Mealing	Orford Hill, Norwich.
Morgan, Benjamin Brauford	6, Bank Street, Norwich.
Moyes, John Helenus	66, St. Andrew's Street, Cambridge.
Pells, Arthur	Beccles and Lowestoft.
Peppercorn, J. Hutchinson	Manor House, Eaton Socon, St. Neot's.
Preedy, Frederick	Caldecot, St. Neot's.
Rix, George Kerry	Somerleyton, near Lowestoft.
Rose, Thomas	21, Prince of Wales Road, Norwich.
Salter, William Herbert	The Hall, Attleborough, Norfolk.
Scott, Archibald Lacy	Abbot's Bridge, Bury St. Edmund's.
Scott, Augustus Frederic	24, Castle Meadow, Norwich.
Scott, Henry Lacy	Bury St. Edmund's.
Scruby, William Thomas	Post Office Terrace, Cambridge.
Selby-Bigge, Charles P. O.	Didlington Estate Office, Brandon, Norfolk.
Simpson, Robert Thomas	Horsecroft, Bury St. Edmund's.
Theakston, William Pease	Huntingdon.
Wilkin, Horace Martin	King's Lynn.
Wright, William Edward	King's Lynn.

Total, 45 Members.

(L) BERKS, BUCKS, AND OXON. COMMITTEE.

Chairman.

Arthur Lawrence, Great Marlow, Bucks.

Adkin, Charles Duncan	Wantage, Berks.
Bailey, Louis Hewitt	Athenæum Buildings, Friar Street, Reading.
Bingham, Alfred John	Nalder Hill House, Newbury.
Buckland, Frank Bowry	Windsor.
Buckland, Sidney Crawford	Windsor.
Butler, Albert Ernest	20, Blagrave Street, Reading.
Castle, Arthur	11, King Edward Street, Oxford.
Castle, Harold	11, King Edward Street, Oxford.
Cooper, Arthur Leslie	17, Friar Street, Reading.
Davis, Charles Edward	Wroxton Estate Office, near Banbury, Oxon.
Dreweatt, Thomas	Newbury, Berks.
Egginton, Denys	150, Friar Street, Reading.
Egginton, John	150, Friar Street, Reading.
Field, Francis Hayward	11, King Edward Street, Oxford.
Gale, Joseph John	Market Place, Wallingford.
Gotto, Frederick Edward	Stoney Stratford, Bucks.
Habgood, Henry Charles	Witney, Oxon.
Harrison, James Thomas	Town Hall Offices, Buckingham.
Haslam, Dryland	Friar Street Chambers, Reading.
Haslam, Dryland, Jun.	Friar Street Chambers, Reading.
Holiday, Frederick Dean	Bicester, Oxford.
Holiday, Percy Cave	Bicester, Oxford.
Jones, Francis William	2, Frewin Court, Corn Market St., Oxford.
King, John Busby	Albert Park, and 14, High St., Abingdon.
Lightfoot, Henry le Blanc	Corpus Christi College, Oxford.
Little, William Davis	Middleton Stoney, Bicester.
Maxwell, Joseph Archibald	36, Oxford Road, Banbury, Oxon.
Millar, William Galt	Friar Street, Reading.
Neate, Arthur Webb	Albion House, Newbury, and Hungerford.
North, George Frederic	Strathfield Saye, Mortimer, Berks.
Peto, James Winder	6, Market Place, Reading.
Rich, Robert	Didcot, Berks.
Samuel, William John	Newport Pagnell, Bucks.
Scovell, John	29, St. Margaret's Road, Oxford.

Simmons, Charles	Henley-on-Thames.
Simmons, William Auker	Henley-on-Thames.
Todd, Richard	Englefield, near Reading.
Vernon, Arthur	Borshams, High Wycombe, Bucks.
Watson, James Bruce	Estate Office, Shirburn, Wallingford.
Wigley, George Davys Edward	Winslow, Bucks.
Wood, Leslie Stuart	66, Easton Street, High Wycombe, Bucks.

Total, 42 Members.

(M) BEDFORD, ESSEX, HERTFORD, AND MIDDLESEX COMMITTEE.

Chairman.

John Weall, 38, High Street, Watford, Herts.

Austin, Russell Gardiner	Hertford.
Ayres, Charles Pryor	14, High Street, Watford.
Balls, James Mayhew	Castle Hedingham, Essex.
Brown, Arthur Macdonald	Tring, Herts.
Brown, Frank John	Tring, Herts.
Burnett, George John Mulcaster	Elstree Cottage, Elstree, Herts.
Chancellor, Frederick	Chelmsford.
Child, Fred	1, Station Road, New Barnet, Herts.
Collins, Charles Edwin	Royal Engineer Office, Colchester, Essex.
Couchman, Henry Boteler	Moor Park Estate Office, Rickmansworth.
Coverdale, Frederick John	Ingatestone Hall, Essex.
Crawter, John	Cheshunt, Herts.
Cumberland, Edward Anthony	Luton, and Leighton Buzzard.
Duvall, John William	Hertford.
Eve, Herbert Trustram	2, St. Paul's Square, Bedford.
Eve, John Richard	St. Paul's Square, Bedford.
Fenn, John	The Hall, Ardleigh, and 146, High Street, Colchester.
Fenning, Herbert Samuel	Fairfield, Ashburnham Road, Bedford.
Fields-Clarke, George Thomas	Estate Office, Southill Park, Biggleswade.

FOULKES, SEPTIMUS GIFFARD	Tring, Herts.
FRANKLIN, BENJAMIN BELGROVE	21, Market Hill, Luton, Bedfordshire.
HARDING, SIDNEY LONGHURST	St. Alban's, Herts.
HASLUCK, LANCELOT GERALD	Green Hill Park, New Barnet, Herts.
HILLIARD, GEORGE EDWARD	Chelmsford.
HOOD, THOMAS	Birdbrook, Halstead, Essex.
HUNT, THOMAS	Baldock Street, Ware, Herts.
KEMP-SMITH, JAMES FREDERICK	Orsett, Essex.
MERRY, ARTHUR WALKER	17, High Street, Leighton Buzzard.
NEWMAN, THOMAS HARRY...	Rayne, Essex.
NOCKOLDS, ALFRED GEORGE	Saffron Walden, Essex.
NOCKOLDS, MARTIN	Saffron Walden, Essex.
NORMAN, JAMES MAURICE...	Uxbridge, Middlesex.
PAIN, GEORGE LLOYD	35, Bedford Street, Woburn, Beds.
PARKER, CHARLES ALFRED	Maldon, Essex.
RUMBALL, AUBREY	St. Alban's, Herts.
SHILCOCK, JAMES	Hitchin, Herts.
STANFORD, CHARLES MAURICE	23, High Street, Colchester.
START, JOSEPH WILLIAM ...	High Street, Colchester.
STRUTT, THE HON. EDWARD GERALD	Whitelands, Hatfield Peverel, Chelmsford, Essex.
SURRIDGE, JOSEPH SMITH ...	Coggeshall, Essex.
SWORDER, HUGH	High Street, Epping.
TALLENT, EDWIN JAMES ...	Brent Pelham, Buntingford, Herts.
TAYLOR, EDWARD FERGUSSON	New Barnet, Herts.
THURNALL, JOHN EDWARD...	Royston, Herts.
TRETHEWY, HENRY	Silsoe, Ampthill, Beds.
TUTT, EDWIN THOMAS	Market Place, Ampthill, Beds.
VAIZEY, JOHN GEORGE ...	Bocking, Braintree, Essex.
WOODMAN, THOMAS FOSTER	32, St. Peter Street, St. Alban's.
WOODS, THOMAS	4 & 5, Church Parade, Hounslow, Middlesex.
WYLES, JOHN WALTER ...	Shortlands, Woodford Road, South Woodford, Essex.

Total, 51 Members.

(N) DEVON AND CORNWALL COMMITTEE.

Chairman.

Alfred Michelmore, Berry Pomeroy Estate Office, Totnes.

Benson, Robert Alan	Duchy of Cornwall Office, Liskeard.
Body, Arthur	Princess Chambers, Princess Sq., Plymouth.
Body, John Bond	Princess Chambers, Princess Sq., Plymouth.
Bourne, Robert Elliott	Elwell, Totnes.
Bowden, John Friendship	Bedford Chambers, Exeter.
Commin, Frederick James	7, Bedford Circus, Exeter.
Cooper, John Groves	Bideford.
Corderoy, Athelstane	12, George Street, Plymouth.
Drew, Henry Alban	15, Queen Street, Exeter.
Drew, Henry	15, Queen Street, Exeter.
Drew, John Gould	15, Queen Street, Exeter.
Dudley, Edgar	Bedford House, 24, Bedford St., Plymouth.
Dymond, Francis Williams	21, Southernhay West, Exeter.
Elliott, Charles	16, Ermington Terrace, Plymouth.
Ellis, Albert Edward	Bedford Chambers, Exeter.
Eve, Charles Gerald	Kitley Estate Office, Yealmpton, near Plymouth.
Foster, Joseph Burgess	4, Cambridge Street, Plymouth.
Fox, Frederick Russell	The Imperial Hotel, Barnstaple.
Frost, Frederic Cornish	Teignmouth.
Greenwood, Joseph	Royal Engineer Office, Devonport.
Jenkin, Arthur Pearse	Trewirgie, Redruth.
Kittow, John	West Holm, Launceston.
Lock, William Henry	Instow.
Loveys, Arthur Clampitt	Moretonhampstead.
Lucas, John Archibald	Guildhall Chambers, High Street, Exeter.
Osmond, Edward	Oakford, Upton Pyne, Devon.
Parsons, Henry John Donne	21, Southernhay West, Exeter.
Pearse, William	Stoliford, Modbury.
Powell, Charles Reginald Evenden	Okehampton Park Estate Office, Okehampton, Devon.
Rendell, Arthur Stephen	Market Terrace, Newton Abbot.
Rundle, Edward Collins	Bedford Estate Office, Tavistock.
Scott-Smith, Arthur Courtenay	10, Gandy Street, Exeter.
Smyth-Richards, George Cobley	6, Castle Street, Barnstaple.
Stapledon, Ernest Allen	Bridge Chambers, Bideford, North Devon.
Stooke, James	Courtenay Street, Newton Abbot.

Tanner, John Melhuish	Wembworthy.
Taylor, Thomas William Harris	Estates Office, Killerton, Exeter, Devon.
Thorne, Arnold	Cross Street, Barnstaple.
Thring, Douglas Theodore	Granville Estate Office, Bude, N. Cornwall.
Ward, Daniel	8, Courtenay Street, Plymouth.
Ward, Frank	Burnville, Tavistock.
Ware, Charles Edwin	Gandy Street Chambers, Exeter.
Whitaker, Ernest Victor	8, Queen Street, Exeter, Devon.
Whitton, Percy	24, Gaudy Street, Exeter, Devon.

Total, 45 Members.

(O) SOMERSET, GLOUCESTER, AND NORTH WILTS COMMITTEE.

Chairman.

Edwin Maggs Hippisley, 4, Chamberlain Street, Wells.

Addie, Peter	City Valuers' Department, The Council House, Bristol.
Anderson, Robert	The Barton, Cirencester.
Andrew, Thomas Hawkes	Williton, Somerset.
Baines, Mathew Talbot	Wootton Bassett, Wilts.
Bennett, Thomas Oatley	Bruton, Somerset.
Birch, Francis Julian Laurence	Hill Side, Yatton, Somerset.
Bishop, Charles	Regent Circus, Swindon, Wilts.
Brinkworth, Robert Edward	St. Mary's Street, Chippenham, Wilts.
Bruton, Henry William	Albion Chambers, Gloucester.
Cotterell, Albert Player Isaac	Scottish Buildings, 28, Baldwin St., Bristol.
Daniel, Harry Augustus Hood	Hill End, Henbury, near Bristol.
Edwards, Arthur Phippen	Hutton, near Weston-super-Mare.
Farwell, Frederick George	11, Laura Place, Bath.
Ferris, George	Milton Manor, Pewsey, Wilts.
Furmedge, John Harris	Estate Office, Lucknam, Chippenham, Wilts.
Harle, John Joseph	Torworth Estate Office, Falfield, Gloucester.
Heard, Herbert	Shepton Mallet, Somerset.
Hippisley, William John	12, Chamberlain Street, Wells.
Jeans, Mark	Marlborough, Wilts.
Knowles, Henry	Linden Grove, The Spa, Gloucester.

Madge, John	Somerset House, Chard, Somerset.
Marshall, Lionel Hasler	Chippenham, Wilts.
Mundy, Herbert	Manvers Street, Trowbridge, Wilts.
Munro, Philip	2, St. Stephen's Chambers, New Baldwin Street, Bristol.
Napier, Henry Burroughes	Long Ashton, Clifton, Bristol.
Parsons, Frank Donisthorpe	Misterton, Crewkerne.
Parsons, Robert Maurice Peters	Misterton, Crewkerne.
Peard, John Grigg	North Curry, near Taunton.
Pritchett, Ellis Herbert	Regent Circus, Swindon, Wilts.
Sadler, George William	467, High Street, Cheltenham.
Scammell, Thomas	1, St. Stephen Street, Bristol.
Shufflebotham, John Henry	Staplegrove, Taunton.
Silcock, Thomas Ball	9, Miles Buildings, Bath.
Smith, Henry Herbert	Chippenham, Wilts.
Spackman, Charles Chantrey	6, Terrace Walk, Bath.
Spackman, Henry	6, Terrace Walk, Bath.
Sturge, Robert Fowler	33, Corn Street, Bristol.
Sturge, William	33, Corn Street, Bristol.
Trepplin, Ernest C.	Wastern, Wooton Bassett, Wilts.
Villar, James	1a, Cambray, Cheltenham.
Wainwright, C. Rawlinson	Shepton Mallet.
Watkins, Robert Arundel	Castle Combe, Chippenham, Wilts.
Wise, Charles Dacres	Toddington, Winchcomb, Gloucestershire.
Wooler, Walter Hernaman	Waterloo Street, Weston-super-Mare.

Total, 45 Members.

(P) HAMPSHIRE, DORSET, AND SOUTH WILTS COMMITTEE.

Chairman.

Frederick John Smith, 21, Portland Street, Southampton, and Basingstoke.

Allen, George	Strangways, Marnhull, Blandford, Dorset.
Arnold, Francis	Chilland, Winchester, & Hambledon, Hants.
Austin, Richard	Bishop's Waltham, Hants.
Austin, Richard, Jun.	Bishop's Waltham, Hants.
Bath, Fred	Crown Chambers, Salisbury.
Bird, James Binfield	West Cowes, Isle of Wight.
Blake, Frederick	130, Queen Street, Portsea, Hants.
Blizard, John Henry	Lansdowne House, Castle Lane, Southampton.

Burnett, Alfred Andrew	2, High Street, Southampton.
Burns, Gavin James	R.E. Office, The Nothe, Weymouth.
Canning, William Browne	Salisbury, Wilts.
Clifton, James Edward	Swanage, Dorset.
Cocks, Samuel Roger	5, St. Thomas's Street, Ryde.
Coleman, Thomas Everit	Royal Engineer Office, Gosport.
Combes, Cyrus	Tisbury, Wilts.
Crickmay, George Rackstrow	St. Thomas' Street, Weymouth.
Crickmay, John Edward	St. Thomas' Street, Weymouth.
Curtis, Charles Edward	Woodlands, Brokenhurst, Hants.
Day, George Carleton	Estate Office, Woodbridge, Shaftesbury, Dorset.
Duke, Edward	Dorchester.
Duke, Henry	Dorchester.
Eames, Edward	Compton, Winchester.
Evans-Vaughan, Henry	St. Peter's Chambers, Bournemouth, Hants.
Elford, John	King Street, Poole.
Ellen, Frederick Charles	Andover.
Gater, Caleb William	Salisbury.
Goldsmith, Douglas Fleet	Lavant Street, Petersfield, Hants.
Gudgeon, George Edward	Estate Agency Offices, Winchester.
Haddock, Roland	Richmond Chambers, Bournemouth, Hants.
Hall, Ernest	57, Commercial Road, Portsmouth, Hants.
Hankinson, Thomas James	Richmond Chambers, Bournemouth, Hants.
Hannen, Reginald St. John	The Cottage, Fordingbridge, Salisbury.
Harris, James	Winchester.
Hawker, Harry Edwin	St. Peter's Chambers, Bournemouth.
Herbert, Allan	The Market Place, Andover.
Hill, William Burrough	62, Above Bar, Southampton.
Isted, Samuel Eveland	Royal Engineer Office, North Camp, Aldershot.
Jennings, Fitz-Laurence Percival Dudley	Old Post Office Chambers, Bournemouth, Hants.
Kent, George Edward	Normanhurst, Cavendish Road, Southsea.
King, Thomas	Pembroke House, Portsmouth.
King, Sir William David, D.L.	Stratford Lodge, Southsea.
Lane, Ernest Lacan.	81, Old Christchurch Road, Bournemouth.
Lemon, James	Southampton.
Lywood, Edwin	Norman Court, Clatford, Andover.
Marvin, Albert Edward	Marl Hill, Carisbrooke.
Mitchell, George Sharman	Upper Adhurst, Petersfield, Hants.
Newman, Francis	Ryde, Isle of Wight.
Newton, Thomas Edwin	Bank Chambers, Winchester.
Oakley, Edward Benjamin	Westville, Parkstone, Dorset.

Oliphant, George A. J.	Thruxton, Andover.
Pain, James	48, West Street, Fareham, Hants.
Parry, Richard Frederick	Bishop's Waltham, Hants.
Paterson, Charles	Canford Estate Office, Wimborne, Dorset.
Perkins, Walter Frank	Portswood House, Southampton.
Rawlence, Ernest Alfred	Newlands, Salisbury.
Rawlence, James Edward	The Canal, Salisbury.
Raynbird, Hugh Edward	Basingstoke, Hants.
Rebbeck, Edward Wise	Stafford Lodge, Bournemouth.
Rebbeck, Thomas Warren	Gervis Place, Bournemouth.
Richards, George Edward	Stour Lodge, Wimborne.
Riddett, William Hammond	Townhall Chambers, Ryde.
Rigden, Francis	Salisbury.
Robey, Robert	Oaklands, East Tytherley, near Romsey.
Robinson, Edmund Arthur	Lee-on-the-Solent, Gosport, Hants.
Roker, Mitchel John	Snowdenham, West Cliff Road, Bournemouth.
Rutherford, James Augustine	Highclere Park, near Newbury.
Sanctuary, Campbell Fortescue Stapleton	Mangerton, Melplash, Dorset.
Saunders, Theodore Ridley	Belgrave Chambers, Ventnor.
Senior, Harry Samuel	Sturminster Newton, Dorset.
Simmons, Charles Franklin	Basingstoke, Hants.
Smith, George Alfred	78, Parchment Street, Winchester.
Squarey, Elias Pitts	The Moot, Downton, Salisbury.
Squarey, Newell William Pitts	Bemerton, Salisbury.
Stallard, Alfred Edwin	West Street, Havant.
Stopher, Thomas	Winchester.
Studdy, Thomas Edward	Estate Office, Basing Park, Alton.
Tory, John Edward	Dorchester, Dorset.
Vernon-Inkpen, George Charles	75, King's Road, Southsea.
Wallington, John Arthur Beach	Basingstoke, Hants.
Walmisley, Joseph William	7, King's Terrace, Southsea.
Warner, Henry	Faringdon, Alton, Hants.
Waters, Edward	The Canal, Salisbury.
Way, Henry James	109, Lower St. James's Street, Newport, Isle of Wight.
Wells, William Howley	Estate Office, Evershot.
Westbury, George Henry	The Knoll, Andover.
Wetherall, Harry Lancaster	Brachlyn, Winchfield.
Wigram, Reginald Spencer	1, Burbage Terrace, Wimborne, Dorset.
Wilbraham, Edward Sidney	Estate Office, St. Giles, Salisbury.
Woolley, John Turton	Salisbury.
Young, Charles	Alton, Hants.
Young, Harry Austin Lindsey	The Johnstone Estate Office, Weymouth.

Total, 92 Members.

(Q) KENT COMMITTEE.

Chairman.

George Langridge, The Broadway, Tunbridge Wells.

Amos, Frank	3, The Parade, Canterbury.
Ashenden, Leonard Thomas	The Kent Fire Office, 29, Westgate, Canterbury.
Ball, William Alfred	Rosslyn, Lansdowne Road, Bromley.
Barton, Harry Howell	17, Guildhall Street, Folkestone.
Billingham, John Alfred Lawrance	Royal Engineer Office, Shorncliffe, Kent.
Boulting, Frederick Edward	Napier Lodge, Minster, Kent.
Brackett, Arthur William	27, High Street, Tunbridge Wells.
Brackett, Frederick Henry	27, High Street, Tunbridge Wells.
Brackett, William	27, High Street, Tunbridge Wells.
Burrows, Alfred John	41, Bank Street, Ashford.
Child, Henry John	Royal Engineer Office, Sheerness.
Cobb, Herbert Mansfield	Higham.
Cobham, Charles	The Shrubbery, Gravesend.
Cobham, George William	1 and 3, Edwin Street, Gravesend.
Cooke, Henry	Watts Avenue, Rochester.
Coulson, William Lindsay	Kesterven, Cromwell Road, Canterbury.
Cowper, William Shapland	Gortanore, Tunstall, Sittingbourne.
Cox, Walter Theodore	Belmont, College Road, Maidstone.
Cronk, Edwyn Evans	Sevenoaks.
Cronk, Frank	Sevenoaks.
Cronk, William Henry	Sevenoaks.
Dann, Henry	Dartford.
Day, William, Jun.	23, High Street, Maidstone.
Elgar, J. Edward	Crockshard, Wingham.
Finn, Adolphus	High Street, Lydd, and Rye.
Finn, Fred. Jun.	Shepherd's Hill, Selling, Faversham.
Freeman, Sydney	The Broadway, Tunbridge Wells.
Fry, George Frederick	46, London Road, Dover.
Grover, Philip Gordon	Boveney, Sandgate Road, Folkestone.
Harvey, John James Sayer	80, Castle Street, Canterbury.
Hayward Frederick George	Dover.
Hayward, Henry	Dover.
Hinds, Henry	57, Queen Street, Ramsgate.
Hobbs, John	Estate Office, Ashford.

Homan, Franklin George	184, Eastgate, Rochester.
Homan, Hubert Franklin	184, Eastgate, Rochester.
Honeyball, Fred. Thomas	Deal.
Hooper, Cecil Henry	Highlands, Swanley.
Jackson, William Tress	117, High Street, Sittingbourne.
Jennings, William Joseph	4, St. Margaret's Street, Canterbury.
Kerl, William James	49, Copers Cope Road, Beckenham.
Kidwell, John	St. Margaret's Bank, Rochester.
Kingsford, Percy Hamilton	24, High Street, Canterbury.
Latter, Hugh Robinson	The Town Hall, Bromley.
Lepper, John Harrage	10, Market Square, Bromley.
Lucas, William Edward	Bexley.
Mann, Jabez	Sevenoaks.
Mathews, William	31, Broadwater Down, Tunbridge Wells.
Neame, Frederick, Jun.	Macknade, Faversham.
Page, Stanley Hatch	6, Queen Street, Ramsgate.
Payne, Frederick	10, Market Square, Bromley.
Phillips, Frederick Hamilton	Beechcroft, Temple Ewell, near Dover.
Prall, Herbert Alexander	Martin's Bank Chambers, Dartford.
Prall, Herbert Edward	150, Eastgate, Rochester.
Roper, William	Kentish Buildings, Tunbridge Wells.
Rudkin, Arthur John	St. Ann's, Bromley.
Scriven, Charles Herbert	Agency Office, Thong, Gravesend.
Seymour, Richard Arthur Hamilton	46, Earl Street, Maidstone.
Smith, Frank Braybrooke	South Eastern Agricultural College, Wye.
Smith, George	Boughton Monchelsea.
Strouts, Lewis Herbert	Belgrave Place, St. Mary Cray.
Temple, Frederick Wilson	48, Sandgate Road, Folkestone.
Tompsett, William Robert	Meadhurst, Tonbridge, and Paddock Wood.
Tootell, Charles	13, King Street, Maidstone.
Tootell, Joseph	13, King Street, Maidstone.
Vinten, Harold Bertram	72, High Street, Ramsgate.
Wacher, Thomas	Upper Bridge Street, Canterbury.
Waring, Herbert Fuller	46, Earl Street, Maidstone.
Waterman, Alfred James	20, Week Street, Maidstone.
Waterman, James	Tenterden.
Williams, Henry Cuthbert	Messrs. Denyer & Co., High Street, Tunbridge Wells.
Wood, William	Ivymeath, Snodland, Rochester.
Young, Thomas John	South Eastern Agricultural College, Wye.

Total, 74 Members.

(R) SUSSEX COMMITTEE.

Chairman.

James Woodhams, Havelock Road, Hastings.

Austen, Frank	Marling Place, Wadhurst.
Bannister, Thomas	Limehurst, Hayward's Heath.
Beard, Edwin Thomas	Marazion, West Hill, St. Leonard's-on-Sea, Sussex.
Bowley, John Cross	Norman Terrace, Hastings.
Burtenshaw, Albert	Hailsham.
Burtenshaw, Albert King	Hailsham.
Card, Henry Curtis	North Street, Lewes.
Chapman, George James	Royal Engineer Office, Brighton.
Chasemore, Philip	Ashleigh, Horsham.
Colgate, Thomas	Sheffield Park, Uckfield.
Davey, Henry Thomas	Cumberland Villa, St. Anne's, Lewes.
Dennison, John W.	28, Upperton Gardens, Eastbourne.
Dray, Alfred	Town Hall Chambers, Hastings.
Gardner, Gilbert	Ifield Court, Crawley.
Hogben, Francis Neale	East Street, Chichester.
Hogben, Thomas Cecil	Highleigh, Sidlesham, near Chichester.
Howard, Harry	Town Offices, Littlehampton.
Hudson, Edward William	Hove.
Ingram, Walter Fielde	2, St. Andrew's Place, Lewes, & 17, Preston Street, Brighton.
Jenner, William	1, Western Road, Hove, Brighton.
King, Frank Hulme	Horsham.
Martin, Thomas	34, Elphinstone Road, Hastings.
May, Francis John Charles	Town Hall, Brighton.
Morris, Herbert	Lewes.
Ogilvie, Robert Mathewson	10, Boltro Road, Hayward's Heath.
Parris, Charles John	Beechwood, Crowborough.
Parsons, Frederick Cecil	163, North St., and 9, Marine Parade, Brighton.
Powell, Hubert John	Hill Lodge, Lewes.
Powell, Reginald Henry	St. Swithun's Lane, Lewes.
Reeve, Kingsnorth	High Street, Rye.
Smith, Sidney	Southwater, Horsham.
Taylor, Matthew	Northchapel, Petworth.
Turner, Charles	Oakhurst, East Grinstead.
Watson, Herbert Edward	New Grove, Petworth.
Watson, Herbert John	Petworth, Sussex.
Welch, Frederick William	168, North Street, Brighton, and Hove.
Wilkinson, Thomas	168, North Street, Brighton, and Hove.
Wyatt, Herbert Guy Buckell	10, West Pallant, Chichester,
Wyatt, Oliver Newman	East Street, Chichester.

Total, 40 Members.

(S) NORTH WALES AND RADNOR COMMITTEE.

Chairman.

JOHN EDWARD POUNDLEY, Kerry, Newtown, Montgomeryshire.

ADDIE, WILLIAM FORRESTER	Powis Castle Estate Office, Welchpool, Montgomeryshire.
BIRCH, RICHARD ELWYN ...	Bryncelyn, St. Asaph, N. Wales.
CLOUGH, RICHARD CHARLES BUTLER	Ty Maur, Denbigh.
DEW, WILLIAM ARTHUR ...	Wellfield House, Bangor.
GILLART, DAVID	Towyn, Merionethshire.
GRANT, JAMES	Penrallt, Llanidloes, Montgomeryshire.
GUNTER, JAMES	Estate Office, Glasbury, Radnorshire.
HOOPER, EDGAR WILFRED ...	Conway, N. Wales.
JONES, WALTER BUTLER CLOUGH	Mynydd, Ednyfed, Criccieth, Carnarvonshire.
JONES, WILLIAM EDWARD ...	Anglesey Estate Office, Craig, Llanfair P.G., Anglesey.
KERR, JOHN MURRAY... ...	Summerfield Park, Llanidloes, Montgomeryshire.
MCINTYRE, PETER	Gwydyr Ucha, Llanrwst, N. Wales.
MACNICOLL, DOUGLAS HENRY	Derwas, Abergele, Denbighshire.
OWEN, WILLIAM SCOTT ...	Cefngwifed, near Newtown, Montgomeryshire.
PICKERING, WILLIAM CLOVES	Rhewl House, Mostyn, Flintshire.
PORTER, JOHN MERRY... ...	Estate Office, Colwyn Bay, N. Wales.
SWETENHAM, HENRY	Estate Office, Hawarden, Flintshire.
WILLIAMS, JOHN	Gwernhefin, Bala, Merionethshire.

Total, 19 Members.

(T) IRISH LAND AGENTS' COMMITTEE.

Chairman.

ALFRED HENRY WYNNE, Collon, Drogheda, Co. Louth.

ABBOTT, JOSEPH	30, Grafton Street, Dublin.
ADAIR, JOHN OLPHERT ...	Ballynoe, Tullow, Co. Clare.
ALEXANDER, CHARLES MURRAY, LIEUT.-COL.	Termon, Carrickmore, Co. Tyrone.
ALEXANDER, HENRY GEORGE SAMUEL, MAJOR	1, Gosford Place, Armagh.
ALEXANDER, ROBERT ARTHUR	Glenmore, Drogheda, Co. Louth.
ANDERSON, ALEX. CAREW ...	Ballymountain, Waterford.
ARMSTRONG, ALEXANDER MOORE, CAPT.	Culmore House, Kilrea, Co. Londonderry.

ARMSTONG, ELLIOTT GRAHAM	Rent Office, Ahascragh, Ballinasloe, Co. Galway.
BAILLIE, JOHN ROBERT, MAJOR	Estate Office, Ballina, Co. Mayo.
BALDWIN, CHAMBRÉ CORCOR THOMAS	7, Leinster Street, Dublin.
BARNES, WILLIAM ARTHUR	Westland, Kells, Co. Meath.
BARRINGTON, JOHN BEATTY	Barrington Street, Limerick.
BARTON, HENRY DUPRÉ MALKIN	The Bush, Antrim.
BARTON, ROBERT CULLEY	Mosstown, Streamstown, Co. Westmeath.
BEAMISH, WILLIAM HENRY	2, South Mall, Cork.
BIGGER, JOHN JAMES EASTWOOD	Fairymount, Dundalk.
BLACKLEY, TRAVERS ROBERT	Drumbar, Cavan.
BLAKENEY, ROBERT EDWARD	Creg Clare, Ardrahan, Co. Galway.
BOWEN, EDWARD FERGUSON	Mantua House, Castlerea, Roscommon.
BRADSHAW, ROBERT MACNEVIN	25, South Frederick Street, Dublin.
BRIDGE, HENRY POWELL	Racket Hall, Roscrea, Tipperary.
BROADLEY, EDWARD BARRY, MAJOR	73, South Mall, Cork.
BROWNE, ERNEST H.	Brookfield, Tullamore.
BROWNLOW, CHARLES	Mountstewart, Newtownards, Co. Down.
BROWNLOW, CLAUDE	Estate Office, Coolderry, Carrickmacross, Co. Monaghan.
BURKE, HENRY ANTHONY	Drumkeen, Ballinamallard, Co. Fermanagh.
BURKE, WILLIAM CREAGHE	Clonne, Ballinrobe, Co. Mayo.
BUTLER, WALTER SELBY	Green Mount, Castle Bellingham, Co. Louth.
CARROLL, THEODORE FREDERICK	80, South Mall, Cork.
CARSON, WILLIAM B.	11, Westland Row, Dublin.
CHATTERTON, ROBT. SMITH	Belmount, Raheney, Co. Dublin.
COCHRANE, JOHN	Combermore, Lifford, Co. Donegal.
COOTE, ORLANDO ROBERT	Auburn, Athlone.
COOTE, STANLEY VICTOR	Carrowroe Park, Roscommon, and The Orchard House, Wargrave, Berks.
CORDNER, CLEMENT KENNEDY	Estate Office, Antrim.
CREAGH, ARTHUR GETHIN	Mallow, Co. Cork.
CROSBIE, JAMES DAYROLLES	Gurtenard, Listowel, Co. Kerry.
DARLEY, EDMUND SANDERS	5, College Green, Dublin.
DARLEY, HENRY PONSONBY SHAW	Estate Office, Carrick-on-Shannon, Co. Leitrim.
DEANE, GEORGE B.	Balla Lodge, Balla, Co. Mayo.
DENNY, FRANCIS MCGILLYCUDDY	17, Denny Street, Tralee.

Dickinson, Charles	36, South Frederick Street, Dublin.
Dolling, Caledon Josias Radclyffe	3, Lower Pembroke Street, Merrion Square, Dublin.
Edgeworth, Thomas Newcomen	Kilshrewly, Edgeworthstown.
Ellis, Ernest Francis Leslie	Estate Office, Bantry, Co. Cork.
Evans, William	Gillardstown House, Killucan.
Farrell, Edward Francis	Moynalty, Kells, Co. Meath.
Fetherstonhaugh, Theodore	Grouse Lodge, Moate, Co. Westmeath.
Fitzgerald, James H. B. Penrose	The Estate Office, Middleton, Co. Cork.
Fitzgerald, Peter David...	66, George Street, Limerick.
Fitzgerald, Robert John	Ballyard House, Tralee.
Fitzherbert, Henry Corry	Millbrook, Abbeyleix, Queen's County.
Forbes, Arthur	Earls Vale, Cavan.
Franks, Matthew Henry	Woodbrook, Mountrath, Queen's County.
Franks, Matthew Henry Jun.	Westfield, Mountrath, Queen's County.
French, Savage	2, South Mall, Cork.
Frend, Causabond William	Parsonstown, King's County.
Frend, Henry	Mitchelstown, Co. Cork.
Galbraith, Hugh	21, Westland Row, Dublin.
Garrett, James Hugh Moore...	Corriewood, Castlewellan, Co. Down.
Garvey, Toler R.	Thornvale, Moneygall, King's County.
Garvey, Toler Robert, Jun.	Estates Office, Parsonstown.
Gloster, Thomas Edward	Collon, Co. Louth.
Godley, Archibald	Killygar, Killeshandra.
Hamilton, Arthur	40, Lower Diminick Street, Dublin.
Hamilton, Edward Chetwood, Major	Woodstock Estate Offices, Inistioge.
Hardman, Edward Chambré	14, Molesworth Street, Dublin.
Harvey, Jas. G. Morewood	Northern Bank Buildings, Londonderry.
Hearn, Charles Richard...	Annaghroe House, Caledon, Co. Tyrone.
Hewson, George Rawdon Maurice	Dromahair, Co. Leitrim.
Hodson, Gilbert Neville...	Hollybrooke, Bray, Co. Wicklow.
Hodson, Richard Edmond	Coolfadda House, Bandon, Co. Cork.
Holmes, William Eden ...	69, Dann Street, Dublin.
Hosford, Edward Henry Poe	76, George Street, Limerick.
Humphreys, Daniel Peard	80, South Mall, Cork.
Hunt, William Lewis ...	83, George Street, Limerick.

Hunt, William Power	81, George Street, Limerick.
Hussey, Maurice F. G.	Ufford Hall, Stamford, Lincolnshire.
Hussey, Samuel Murray	18, Elvaston Place, S.W., [and Edenburn, Gortalea, Co. Kerry.
Hutchings, Samuel Newburgh	Ardnagashel, Bantry, Co. Cork.
Irvine, Hy., Lieut.-Col.	Oatlands, Omagh, Co. Tyrone.
Jameson, Robt. William	Estate Office, Foynes, Co. Limerick.
Johnson, Jocelyn Otway	Kilganon, Enniskerry.
Johnstone, John Brett	Ballycastle, Co. Antrim.
Keane, Marcus	Beech Park, Ennis, Co. Clare.
Kelly, Richard Henry	21, The Mall, Waterford.
Kincaid, James Stewart	7, Leinster Street, Dublin.
Kincaid, Joseph Westby	7, Leinster Street, Dublin.
Knight, Maurice Charles	The Grange, Ballymena, Co. Antrim.
Knox, Albert Frederic	Estate Office, Ballina, Co. Mayo.
Knox, Albert Henry	Ballina, Co. Mayo.
Knox, Edward Ernest	8, Milward Terrace, Bray.
Knox, Ernest Henry	Rahans, Ballina, Co. Mayo.
Kough, Thomas	Estate Office, Kilkenny.
L'Estrange, Christopher Arthur	Estates Office, Sligo.
Lloyd, Averell	Benburb, Moy, Co. Tyrone.
M'Clintock, Arthur	Downshire Office, Hillsborough, Co. Down.
McClintock, Charles Edward, Lieut.-Col.	Glendaragh, Crumlin, Co. Antrim.
McCullagh, James W.	Glasslough, Co. Monaghan.
McDonald, Allan	Glenarm, Co. Antrim.
Mahon, George Gilbert	The Rent Office, Ahascragh, Co. Galway.
Marmion, Thomas Henry	Estates Office, Cappoquin.
Maude, Anthony Fritz	Drumadrery, Irvinestown, Co. Fermanagh.
Maude, Christopher Hugh	Lenaghan, Enniskellen, Co. Fermanagh.
Maunsell, Richard Edward	9, Ely Place, Dublin.
Maxwell, Henry Perceval	Landsdown Lodge, Kenmare, Co. Kerry.
Murphy, James Fraser, Major	Estate Office, Boyle, Co. Roscommon.
Newport, George Bellingham	Rockview, Inistioge, Co. Kilkenny.
Nunn, William Bolton	George Street, Wexford, and Castlebridge.
O'Brien, Donough Richard	16, Upper Mallow Street, Limerick.
Owen, Arthur John	Shanvaghey, Ballacolla, Queen's County.
Penrose, James Edward	Estate Office, Lismore Castle, Lismore.
Penrose, William Robert	Estate Office, Rose Lane, Waterford.
Powell, Robert	Estate Office, Westport, Co. Mayo.
Purcell, Wills W.	Dromore, Mallow.
Quin, Richard	9, Crosthwaite Park W., Kingstown.

Quin, William Thomas Cuffe	Kilbeggan, Co. Westmeath.
Roberts, Edward Ussher	The Rent Office, Longford.
Robinson, Henry Arthur	Roundstone, Galway.
Robinson, James Dodwell, Major	Seamount, Sligo.
Robinson, Richd. St. George	Seamount, Sligo.
Robinson, William Godfrey	Roughan Park, Dungannon, Co. Tyrone.
Rochfort, William	Cahir Abbey, Cahir, Co. Tipperary.
Roe, William James	11, Westland Row, Dublin.
Rogers, Harry	The Hill, Monaghan.
Ruttledge, Francis	Coolbawn, Enniscorthy.
Ruttledge, Thomas Henry Bruen	42, North Great George Street, Dublin.
Sanders, Charles Stewart	Sanders Park, Charleville.
Sanders, Robert Massy Dawson	Sanders Park, Charleville, Co. Cork.
Scott, John Russell	60, Mountjoy Square, Dublin.
Scott, John William	Roslevan, Ennis, Co. Clare.
Smith, George Young	Rocklow, Omagh, Co. Tyrone.
Smith, Sidney Edward	Derryvale, Roscrea.
Stewart, Edwd. P., Capt.	21, Westland Row, Dublin.
Stewart, George Francis	Summerhill, Killiney, Co. Dublin.
Stewart, George Pakenham	21, Westland Row, Dublin.
Stewart, Henry Pakenham	6, Leinster Street, Dublin.
Stewart, William Thomas	6, Leinster Street, Dublin.
Stokes, Richard	60, Dawson Street, Dublin.
Stopford, The Hon. George Frederick William	The Estate Office, Gorey, Co. Wexford.
Studdert, R. R.	Hazlewood, Quin, Co. Clare.
Swiney, William D.	Moyagh, Ramelton, Co. Donegal.
Synge, Edward	Rathe, Kingscourt, Co. Cavan.
Tailyour, Alexander	Estate Office, Arklow, Co. Wicklow.
Talbot-Crosbie, Wm. David	Cloonca, Mount Talbot, Roscommon.
Tanner, Kearns Deane, Major	32, Upper Fitzwilliam Street, Dublin.
Tatlow, John Garnett	14, South Frederick Street, Dublin.
Tatlow, Tissington William Garnett	14, South Frederick Street, Dublin.
Taylor, J. Godfrey L.	Grangeville, Fethard, Co. Waterford.
Tener, Edward Shaw	The Square, Loughrea, Co. Galway.
Tisdall, Hy. Chichester	21, Lincoln Place, Dublin.
Townsend, Robert Uniacke Fitzgerald	18, South Mall, Cork.
Townshend, Charles Loftus	15, Molesworth Street, Dublin.

Townshend, James Richard Clarke	23, South Frederick Street, Dublin.
Townshend, Loftus Thomas	15, Molesworth Street, Dublin.
Townshend, Thomas Courtney	23, South Frederick Street, Dublin.
Trench, Arthur	Dromkeen, Cavan.
Trench, Geo. Frederic	Estate Office, Ardfert, Co. Kerry.
Trench, James Currie	Coolgraney, Dundrum, Co. Dublin.
Trench, Philip Francis Chenevix	30, Kildare Street, Dublin.
Turner, Frederick Adolphus Brabazon	The Estate Office, Gorey.
Tyndall, Albert Henry	Ballyanne House, New Ross, Co. Wexford.
Tyrrell, Garrett Charles	Ballinderry, Carbery, Co. Kildare.
Vandeleur, Cecil Ernest	Estate Office, Mallow, Co. Cork.
Vereker, Henry Robert	Summerville, Westport, Co. Mayo.
Vernon, Arthur Pomeroy	1, Wilton Place, Dublin.
Vernon, Fane	Pembroke Estate Office, Wilton Place, Dublin.
Verschoyle, William Henry Foster	Woodley, Dundrum.
Ward, Somerset, The Hon.	Isle o' Valla House, Downpatrick.
Warnock, Thomas Archibald	Portaferry, Co. Down.
Warren, Richard Lane	61, South Mall, Cork.
Watson, Arthur B.	11, Montpelier Parade, Monkstown, Co. Dublin.
Watson. William James	Benvenue, Rostrevor, Co. Down.
Webb, Charles	Rahilly, Sligo.
Welply, James	65, George Street, Limerick.
White, Arthur	99, George Street, Limerick.
White, Richard	Johnstown House, Enfield, Co. Meath.
Willis, Gilbert de Laval	4, Kildare Street, Dublin.
Willis, Henry de Laval	Ennis, Co. Clare.
Wilson, Arthur Jn. de Courcy	Garvagh, Edgeworthstown.
Wood-Martin, Henry Roger Bromhead	Cleveragh, Sligo.
Wynne, Alfred Henry	Collon, Drogheda, Co. Louth.
Young, George Lawrence	Randalstown, Co. Antrim.

Total, 184 Members.

(U) SCOTTISH COMMITTEE.

Chairman.

Thomas Binnie, 207, Hope Street, Glasgow.

Adam, Thomas	27, Union Street, Glasgow.
Anderson, Robert	95, Bath Street, Glasgow.
Aitken, John Malcolm	Castlemilk Estates Office, Norwood, Lockerbie, Dumfriesshire.
Barr, James	221, West George Street, Glasgow.
Bathgate, Charles S.	26, Bellgrove Street, Glasgow.
Beattie, William Halden	11, Glencairn Crescent, Edinburgh.
Bell, Andrew Walker	Corporation Buildings, Dunfermline.
Binnie, Thomas, Jun.	207, Hope Street, Glasgow.
Blair, Alexander	198, West George Street, Glasgow.
Brown, Charles	Kerse Estate Office, Falkirk, Stirlingshire.
Brown, George	Hilton of Culsh, New Deer, Aberdeenshire.
Brown, William	138, West Regent Street, Glasgow.
Bryden, Robert A.	212, St. Vincent Street, Glasgow.
Burnet, Frank	180, Hope Street, Glasgow.
Connor, George Harry Adams	Estates Office, Longniddry, Haddingtonshire.
Copland, William Robertson	146, West Regent Street, Glasgow.
Cullen, Alexander	Brandon Chambers, Hamilton, Lanarkshire.
Cunningham, Robert	Branxholme, Hawick, Roxburghshire.
Curror, John Fortune	74, George Street, Edinburgh.
Danskin, Alexander Brown	105, West George Street, Glasgow.
Danskin, John	241, West George Street, Glasgow.
Davidson, Charles	Terrace Buildings, Paisley, Renfrewshire.
Davidson, James Inglis	Sangton Mains, Edinburgh, and 175, West George Street, Glasgow.
Duke, Freke Guy Rashleigh	Braehead, Kilmarnock.
Fortune, George Robert	Charleton Estate Office, Colinsburgh, Fife, N.B.
Fraser, Thomas Smellie	209, St. Vincent Street, Glasgow.
Fraser, William	209, St. Vincent Street, Glasgow.
Fyfe, John William	221, West George Street, Glasgow.
Gilchrist, John	70, Wellington Street, Glasgow.

Gillespie, John	Blackhall, Paisley, Renfrewshire.
Glendinning, George Robert	Hatton Mains, Kirknewton, Midlothian.
Hamilton, Robert	Lands Valuation Office, Greenock.
Hart, John	Cowie Mains, Stonehaven, Kincardineshire.
Hart, Patrick Campbell, A.M.I.C.E.	134, St. Vincent Street, Glasgow.
Henry, James	Lands Valuation Office, City Chambers, Glasgow.
Hill, Thomas Nelson	180, Hope Street, Glasgow.
Howatt, William	146, Buchanan Street, Glasgow.
Johnstone, James	Alloway Cottage, Ayr, Ayrshire.
Kirkwood, Charles	67, West Regent Street, Glasgow.
Knox, Alexander	53, Bothwell Street, Glasgow.
Laing, David Taylor	20, Bridge Street, Glasgow.
Laing, John	20, Bridge Street, Glasgow.
Lammie, George	138, Hope Street, Glasgow.
Lockhart, Peter	Estates Office, Edenhall, Langwathby, Cumberland, and Blackwood House, Ecclefechan, Dumfriesshire.
Logan, James	Coltness, Wishaw, Lanarkshire.
MacCallum, Alexander Duncan	12, St. Vincent Street, Glasgow.
McCallum, James	Town Hall, Motherwell, Lanarkshire.
Macdonald, Ranald	Clung Castle, Aberdeen.
Macdonald, Ranald Roderick	16, Union Terrace, Aberdeen.
MacDougall, Robert	138, West Regent Street, Glasgow.
Mackay, William	Freswick Estate Office, Thurso, Caithness-shire.
Mackenzie, Donald Falconer	Estate Office, Morton Hall, Liberton, Midlothian.
McLean, Donald	Dunrobin Estate Office, Golspie, Sutherlandshire.
MacLennan, William	Grainbank, Kirkwall, Orkney Islands.
Macpherson, William	Montrose Estate Office, Catter House, Drymen, Stirlingshire.
Makins, William Alexander	79, West Regent Street, Glasgow.
Marwick, Thomas Purves	43, York Place, Edinburgh.
Munro, Daniel	39, Hope Street, Glasgow.
Murdock, Robert	91, Maxwell Road, Glasgow.
Murray, Gilbert	Orchardlee, Girvan, Ayrshire.
Murray, John Campbell	Pollock Estate Office, 53, Bothwell, Street, Glasgow.
Murray, Joseph	Camperdown Estates Office, Dryburgh, Lochee, Forfarshire.

Murray, William Watson	Catter House, Drymen, Stirlingshire.
Purdie, Anthony...	241, West George Street, Glasgow.
Robertson, Walter Wood	3, Parliament Square, Edinburgh.
Robb, William Johnston...	53, Bothwell Street, Glasgow.
Sandford-Thompson, William James...	Balmanno, Marykirk, Kincardineshire.
Scott, Robert	115, Wellington Street, Glasgow.
Sharp, John Grant	74, Buchanan Street, Glasgow.
Simpson, George	Town Hall, Leith, Edinburgh.
Smellie, George	167, St. Vincent Street, Glasgow.
Sproat, Robert	Lennox Plunton, Kirkcudbright.
Stevenson, Allan	14, Cathcart Street, Ayr.
Tannahill, Robert Dunlop	Lands Valuation Office, Kilmarnock.
Taylor, Robert	70, Bath Street, Glasgow.
Turner, Joseph Harling...	Portland Estate Offices, Kilmarnock.
Walker, George James ...	3, Golden Square, Aberdeen.
Walker, John	74, Bath Street, Glasgow.
Wallace, Thomas Douglas	Callendar Park, Falkirk, Stirlingshire.
Wallace, William Sydney Smith	"Bardeunock," Moniaive, Dumfriesshire.
Whyte, John...	Hollybank, St. Ninians, by Stirling.
Wilson, James	26, Renfield Street, Glasgow.
Winning, Douglas Campbell Wills	Municipal Buildings, Broughty Ferry, Forfarshire.
Yuille, Robert	58, South Portland Street, Glasgow.

Total, 85 Members.

Local Distribution of Members.

July 1st, 1901.

BEDFORDSHIRE.

AMPTHILL.

Fellow :—
Tutt : Edwin Thomas.

Professional Associate :—
Pearce : Dudley Francis.

ASPLEY GUISE.

Professional Associate :—
Simpson : John Henry.

BEDFORD.

Fellows :—
Eve : Herbert Trustram.
Eve : John Richard.
Fenning : Herbert Samuel.

Professional Associates :—
Bradshaw : Arthur Stanley.
Lawley : George Frank.
Perks : Hugh Earl.
Weston : Joseph Aurelius.

BIGGLESWADE.

Fellow :—
Fields-Clarke : George Thomas.

LEIGHTON BUZZARD.

Fellow :—
Merry : Arthur Walker.

LUTON.

Fellows :—
Cumberland : Edward Anthony.
Franklin : Benjamin Belgrove.

Professional Associate :—
Hodges : Cecil Stuart.

SILSOE.

Fellow :—
Trethewy : Henry.

WOBURN.

Fellow :—
Pain : George Lloyd.

Professional Associates—
Ambler : Sydney Wood.
Hall : Charles Pell.

BERKSHIRE.

ABINGDON.

Fellows :—
Adkin : Charles Duncan.
King : John Busby.

Professional Associate :—
Brackett : William Newbegin.

BEEDON.

Professional Associate :—
White ; Walter Ernest Coates.

BUSCOT.

Professional Associate :—
Crosland : Walter.

DIDCOT.

Fellow :—
Rich : Robert.

EATON-HASTINGS.

Professional Associate :—
Cambridge : William James.

ENGLEFIELD.

Fellow :—
Todd : Richard.

HUNGERFORD.

Fellow :—
Neate : Arthur Webb.

MAIDENHEAD.

Professional Associates :—
Drew : Walter Hubert.
Tilly : Hubert Douglas.

NEWBURY.

Fellows :—
Bingham : Alfred John.
Drewatt : Thomas.
Neate : Arthur Webb.

BERKSHIRE—*continued.*

READING.

Fellows:—

Bailey: Louis Hewitt.
Butler: Albert Ernest.
Cooper: Arthur Leslie.
Egginton: Denys.
Egginton: John.
Haslam: Dryland.
Haslam: Dryland, Jun.
Millar: William Galt.
Peto: James Winder.

Professional Associates:—

Carr: Herbert Francis.
Goadby: Howard.

STRATHFIELDSAYE.

Fellow:—

North: George Frederic.

Professional Associate:—

Bigg: Lionel Thursfield.

WALLINGFORD.

Fellow:—

Gale: Joseph John.

Associate:—

Wells: Alfred Dodd.

WANTAGE.

Fellows:—

Adkin: Charles Duncan.
Belcher: Edward John.

WHITLEY

Professional Associate:—

Morris: Arthur.

WINDSOR.

Fellows:—

Buckland: Frank Bowry.
Buckland: Henry Duneau.
Buckland: Sidney Crawford.

Professional Associate:—

Everett: Arthur Sherman.

WOKINGHAM.

Professional Associate:—

Laumann: Montgomery Patrick John.

BUCKINGHAMSHIRE.

AYLESBURY.

Professional Associate:—

Gurney: Ronald George.

BUCKINGHAM.

Fellow:—

Harrison: James Thomas.

Professional Associate:—

Smith: James.

COLESHILL.

Professional Associates:—

Howland: Arthur Frank.
Howland: George.

BUCKINGHAMSHIRE—*continued.*

HIGH WYCOMBE.

Fellows:—

Vernon: Arthur,
Vice-President.
Wood: Leslie Stuart.

Professional Associates:—

Phillips: William Dearlove.
Raffety: Harold Vezey.

LEDBURN.

Professional Associate:—

Harrison: Cyril Henry Gilmore.

LEIGHTON BUZZARD.

Fellow:—

Cumberland: Edward Anthony.

MARLOW (GREAT).

Fellow:—

Lawrence: Arthur.

NEWPORT PAGNELL.

Fellow:—

Samuel: William John.

STONY STRATFORD.

Fellow:—

Gotto: Frederick Edward.

WINSLOW.

Fellow:—

Wigley: George Davys Edward.

Professional Associate:

Wigley: Sidney Prudden.

CAMBRIDGESHIRE.

BABRAHAM.

Professional Associate:—

Webb: Frederic Noel.

CAMBRIDGE.

Fellows:—

Grain: Arthur Tress.
Jonas: Harry Marshall.
Moyes: John Helenus.
Scruby: William Thomas.

Professional Associates:—

Gray: Percy Williams.
Jonas: Samuel Marshall.
Mackintosh: William Smith.
Pitt: Philip Septimus.
Rutter: Arthur Lionel.

Associate:—

Somerville: William.

CHEVELEY.

Professional Associate:—

Garrod: Herbert James.

CAMBRIDGESHIRE—*continued.*

ELY.

Fellows :—
Bidwell: Charles,
Member of Council.
Bidwell: John Evans.
Bidwell: Philip Shelford.

LINTON.

Fellow :—
Chalk: Henry Philip.

LITTLEPORT.

Fellow :—
Martin: Heber Gambling.

NEWMARKET.

Fellow :—
Bellingham: Archibald Turner.

Professional Associate :—
Marriott: Cecil Wynne.

WISBECH.

Professional Associate :—
Davis: William Henry Harold.

CHESHIRE.

ALTRINCHAM.

Fellow :—
Hall: John Herbert.

BIRKENHEAD.

Fellow :—
Mills: William Edward.

BROOKLANDS.

Professional Associate :—
Bowden: Erenst Newton.

BROXTON.

Professional Associate :—
Cope: Gerald Harwood.

CAPESTHORNE.

Fellow :—
Carswell: William.

CHESTER.

Fellows :—
Jones: Isaac Matthews.
Richmond: Walter Coleridge.
Whalley: Henry Shaw.

Professional Associates :—
Elphick: George Pelham.
Smith: Arthur Plumbe.
Tait: Frank Vincent.

CHESHIRE—*continued.*

CREWE.

Fellow :—
McCracken: William.

DODDINGTON.

Fellow :—
Loring: John.

ECCLESTON.

Fellow :—
Parker: The Hon. Cecil Thomas.

FRODSHAM.

Fellow :—
Linaker: Charles Edward.

HAUGHTON.

Fellow :—
Owen: Richard Newsham.

HEATON CHAPEL.

Professional Associate :—
Pye: George Henry.

HOLMES CHAPEL.

Professional Associate :—
Turner: Drysdale.

KNUTSFORD.

Fellows :—
Hall: John Herbert.
Smith: John Thompson.

Professional Associate :—
Smith: John Ambrose.

LISCARD

Professional Associate :—
Johnson: Henry Labron

MIDDLEWICH.

Professional Associate :—
Sheldon: Harold.

NORTHWICH.

Fellow :—
Stocks: Frederick William

STOCKPORT.

Fellows :—
Brady: Charles Alldis.
Brady: William Hollinshed.

CHESHIRE—*continued.*

WILMSLOW.

Fellow :—
Cartwright : Alfred Stott.

Professional Associate :—
Halkyard : William Redford.

CORNWALL.

BUDE.

Fellow :—
Thring : Douglas Theodore.

LAUNCESTON.

Fellow :—
Kittow : John.

Associate :—
Cowlard : Christopher Lethbridge.

LISKEARD.

Fellow :—
Benson : Robert Alan.
Professional Associate :—
Eliott : Arnold.

NEW QUAY.

Professional Associates :—
Cowell : Herbert Lee.
Cowell : Wilfrid Lee.

REDRUTH.

Fellow :—
Jenkin : Arthur Pearse.

ST. AUSTELL.

Professional Associate :—
Hancock : Henry Sydney, Jun.

CUMBERLAND.

ASPATRIA.

Professional Associate :—
Wilton : James Percy.

Associate :—
Hill : John Smith.

BRAMPTON.

Professional Associate :—
Lee : Francis Blacklock.

CARLISLE.

Fellows :—
Hayton : Joseph William.
Hayton : Pattinson.
Heskett : William James.
Richardson : George.
Rook : Joseph Taylor.

Professional Associates :—
Little : Hudson.
Sale : Arthur Reed.
Stone : Cyril Frank.

CUMBERLAND—*continued.*

COCKERMOUTH.

Fellow :—
Clutton : William James.

LOWTHER.

Fellow :—
Woof : Robert Stephenson.

NETHERBY.

Fellow :—
Bowman : John James.

PENRITH.

Fellows :—
Birkett : Tom.
Heskett : William James.
Hudson : James.
Little : William.

RAVENGLASS.

Fellow :—
Watt : Alexander.

WHITEHAVEN.

Fellows :—
Sly : William.
Stanley-Dodgson : Stanley Dickinson.

Professional Associate :—
Brown : Thomas, Jun.

WORKINGTON.

Fellow :—
Potts : James.

DERBYSHIRE.

ALFRETON.

Fellow :—
Eardley : John William.

ALLESTREE.

Fellow :—
Harrison : John Edward.

BAKEWELL.

Fellow :—
Longsdon : Ernest Morewood.

BEAUCHIEF ABBEY.

Fellow :—
Sampson : William.

BREADSALL.

Professional Associate :—
Thompson : Frederick Hubert.

DERBYSHIRE—*continued.*

BUXTON.

Fellows:—
Hubbersty: Henry Alfred.
May: Thomas Henry.

CALOW.

Fellow:—
Thorpe: Christopher.

CHESTERFIELD.

Fellows:—
Jeudwine: William Wynne.
Margereson: Charles Frederic.
Martin: Gilson.

DERBY.

Fellows:—
Brailsford: Henry.
Fuller: Thomas Alfred.
Shaw: John,
Past-President.
Shaw: John, Jun.
Tomlinson: Thomas.

Professional Associates:—
Hooley: Arthur John.
McCallum: Peter Service.

Associates:—
Blackshaw: John Frank.
Strutt: The Hon. Frederick.

DUCKMANTON.

Fellow:—
Byron: Augustus William.

DUFFIELD.

Professional Associate:—
Simpson: Leslie Shepherd.

HATHERSAGE.

Fellow:—
Bruce: Robert Knight.

MATLOCK.

Professional Associate:—
Cargill: Campbell Featherstone

NORTON LEES.

Professional Associate:—
Alderson: Rowland William.

SANDIACRE

Professional Associate:—
Child: Edmund Herbert.

SHIPLEY.

Fellow:—
Sebastian-Smith: Charles.

WINGERWORTH

Fellow:—
Barnes: George Frederick.

DEVONSHIRE.

BARNSTAPLE.

Fellows:—
Fox: Frederick Russell.
Smyth-Richards: George Cobley.
Thorne: Arnold.

Professional Associate:—
Southcombe: John Charles.

BEERALSTON.

Fellow:-
Ward: Daniel.

BIDEFORD.

Fellows:—
Cooper: John Groves.
Stapledon: Ernest Allen.

COCKINGTON.

Professional Associate:—
Greenfield: Thomas James.

DEVONPORT.

Fellow:—
Greenwood: Joseph.

Professional Associate:—
Venning: Alfred John Meybohn.

EXETER.

Fellows:—
Bowden: John Friendship.
Commin: Frederick James.
Drew: Henry.
Drew: Henry Alban.
Drew: John Gould.
Dymond: Francis William.
Ellis: Albert Edward.
Lucas: John Archibald.
Parsons: Henry John Donne.
Scott-Smith: Arthur Courtenay.
Ware: Charles Edwin.
Whittaker: Ernest Victor.
Whitton: Percy.

Professional Associate:—
Bulley: Horace William.

INSTOW.

Fellow:—
Lock: William Henry.

KILLERTON.

Fellow:—
Taylor: Thomas William Harris.

MODBURY.

Fellow:—
Pearse: William.

DEVONSHIRE—*continued.*

MORETONHAMPSTEAD.

Fellow :—
Loveys : Arthur Clampitt.

NEWTON ABBOT.

Fellows :—
Rendell : Arthur Stephen.
Stooke : James.

OKEHAMPTON.

Fellow :—
Powell: Charles Reginald Evenden.

PLYMOUTH.

Fellows :—
Body : Arthur.
Body : John Bond.
Corderoy : Athelstane.
Dudley : Edgar.
Elliott : Chas.
Foster : Joseph Burgess.
Ward : Daniel.

Professional Associate :—
Ellis : Arnold Robertson.

TAVISTOCK.

Fellows :—
Rundle : Edward Collins.
Ward : Frank.

Professional Associate: —
Timbell : Alan.

TEIGNMOUTH.

Fellow :—
Frost : Frederic Cornish.

TORQUAY.

Professional Associates :—
Greenfield : Thomas James,
Rivers : Charles Edwin.

TOTNES.

Fellows :—
Bourne : Robert Elliott.
Michelmore : Alfred.

UPTON PYNE

Fellow :—
Osmond : Edward.

WEMBWORTHY.

Fellow :—
Tanner : James Melhuish.

DEVONSHIRE—*continued.*

YEALMPTON.

Fellow :—
Eve : Charles Gerald.

DORSETSHIRE.

CANFORD.

Professional Associate :—
Meaby : Thomas James, Jun.

DORCHESTER.

Fellows :—
Duke : Edward.
Duke : Henry.
Tory : John Edward.

EVERSHOT.

Fellow :—
Wells : William Howley.

MARNHULL.

Fellow :–
Allen : George.

MELPHASH.

Fellow :—
Sanctuary : Campbell F. S.

PARKSTONE.

Fellow :—
Oakley : Edward Benjamin.

POOLE.

Fellow ·—
Elford : John.

SHAFTESBURY.

Fellow :—
Day : George Carleton.

STURMINSTER-NEWTON.

Fellow :—
Senior : Harry Samuel.

SWANAGE.

Fellow :—
Clifton : James Edward.

DORSETSHIRE—*continued.*

WEYMOUTH.

Fellows:—
Burns: Gavin James.
Crickmay: George Rackstrow.
Crickmay: John Edward.
Young: Harry Austin Lindsay.

WIMBORNE.

Fellows:—
Paterson: Charles.
Richards: George Edward.
Wigram: Reginald Spencer.

DURHAM.

BARNARD CASTLE.

Fellow:—
Wells: Edwin.

BEAMISH.

Fellow:—
Clark: Nathaniel.

Professional Associate:—
Clark: Nathaniel, Jun.

BRANCEPETH.

Fellow:—
Peirson: Henry Thomas.

CONSETT.

Fellow:—
Oliver: Charles Edward.

DARLINGTON.

Fellow:—
Eade: Arthur Willoughby French.

Professional Associate:—
Robinson: Josslyn Alleyne.

DURHAM.

Fellows:—
Rowlandson: Christopher.
Wall: George Young.

Professional Associates:—
Pegg: John Thomas.
Rowlandson: Samuel Messiter.

GATESHEAD-ON-TYNE.

Fellow:—
Wallace: Henry.

HELTON-LE-HOLE.

Fellow:—
Cochrane: William James.

DURHAM—*continued.*

KEVERSTONE.

Fellow:—
Bainbridge: Robert Stagg.

SEAHAM HARBOUR.

Fellow:—
Brydon: Robert.

Professional Associate:—
Lake: Vivian Davey.

STOCKTON-ON-TEES.

Fellows:—
Curry: Henry John.
Rodham: John.

Professional Associate:—
Harrison: Arthur.

SUNDERLAND.

Fellows:—
Hedley: John Hunt.
Miller: John Ezra.

WEST HARTLEPOOL.

Professional Associates:—
Foster: Henry Helm.
Tiffin: Thomas Edward.

ESSEX.

ARDLEIGH.

Fellow:—
Fenn: John.

BIRDBROOK.

Fellow:—
Hood: Thomas.

BRAINTREE.

Fellow:—
Vaizey: John George.

CASTLE HEDINGHAM.

Fellow:—
Balls: James Mayhew.

CHELMSFORD.

Fellows:—
Chancellor: Frederick.
Hilliard: George Edward.

Associate:—
Gepp: Charles Bramston Osborne.

ESSEX—*continued.*

CHIGWELL.

Fellow:—
Savill: Alfred.

COGGESHALL.

Fellow:—
Surridges: Joseph Smith.

COLCHESTER.

Fellows:—
Collins: Charles Edwin.
Fenn: John.
Stanford: Charles Maurice.
Start: Joseph William.

Professional Associates:—
Cowell: Wilfred Lee.
Grimwade: Henry.
Wilson: John.

EPPING.

Fellow:—
Sworder: Hugh.

GRAYS.

Fellow:—
Cobham: Charles.

Professional Associate:—
Harlow: William Wyatt Ridgway.

HATFIELD PEVEREL.

Fellow:—
Strutt: The Hon. Edward Gerald,
Member of Council.

INGATESTONE.

Fellow:—
Coverdale: Frederick John.

MALDON.

Fellow:—
Parker: Charles Alfred.

NEWPORT.

Professional Associate:—
Cole: James Thomson.

ORSETT.

Fellow:—
Kemp-Smith: James Frederick.

RAYNE.

Fellow:—
Newman: Thomas Harry.

SAFFRON WALDEN.

Fellow:—
Nockolds: Alfred George.
Nockolds: Martin.

Professional Associate:—
Nockolds: Martin Charles Hubert.

ESSEX—*continued.*

SNARESBROOK.

Professional Associate:—
Cushen: Charles Osmon.

SOUTHEND-ON-SEA.

Fellow:—
Tapp: Arthur.

Professional Associates:—
Phillips: Francis John.
Phillips: George Cawkwell.

WALTHAM-ABBEY.

Fellow:—
Chetwood: Stephen.

WENDEN.

Professional Associate:—
Robinson: Martin Catlin.

WOODFORD.

Fellows:—
Lee: Philip Shirling.
Wyles: John Walter.

Professional Associates:—
Houghton: William Charles.
Kemsley: William Hugh.

WRITTLE.

Professional Associate:—
Hilliard: Hugh Neville.

GLOUCESTERSHIRE.

BISHOPSTON.

Professional Associate:—
Holbrow: Herbert Oliver.

BRISTOL.

Fellows:—
Addie: Peter.
Cotterell: Albert Player Isaac.
Daniel: Henry Augustus Hood.
Munro: Philip.
Napier: Henry Burroughes.
Scammell: Thomas.
Sturge: Robert Fowler.
Sturge: William,
Past-President.

Professional Associates:—
Cole: Francis Joseph.
Daniel: Herbert Hood.
Goodbody: Frederick Allen Sturge.
Kieser: William Henry Gustav.
Sturge: Theodore.

CHELTENHAM.

Fellows:—
Sadler: George William.
Villar: James.

GLOUCESTERSHIRE—*continued.*

CIRENCESTER.

Fellow:—
Anderson: Robert.

Professional Associates:—
Dodd: Eustace Cyril Theodore.
Swanwick: Bruce.

Associate:—
Kinch: Edward.

FAIRFORD.

Professional Associate:—
Milbourne: John Seymour.

FALFIELD.

Fellow:—
Harle: John Joseph.

GLOUCESTER.

Fellows:—
Bruton: Henry William.
Knowles: Henry.

KINGSWOOD.

Professional Associate:—
Saise: Alfred John.

TODDINGTON.

Fellow:—
Wise: Charles Dacres.

WINCHCOMB.

Fellow:—
Wise: Charles Dacres.

HAMPSHIRE.

ALDERSHOT.

Fellow:—
Isted: Samuel Eveland.

ALTON.

Fellow:—
Studdy: Thomas Edward.

Associate:—
Downie: Alexander Francis Mackenzie.

ANDOVER.

Fellows:—
Ellen: Frederick Charles.
Herbert: Allan.
Westbury: George Henry.

Professional Associates:—
Hooper: Alfred Frederick.
Keep: William Henry.

HAMPSHIRE—*continued.*

BASINGSTOKE.

Fellows:—
Raynbird: Hugh Edward.
Simmons: Charles Franklin.
Simmons: William Anker.
Wallington: John Arthur Beach.

BISHOP'S WALTHAM.

Fellows:—
Austin: Richard.
Austin: Richard, Jun.
Parry: Richard Frederick.

BOURNEMOUTH.

Fellows:—
Evans-Vaughan: Henry.
Haddock: Roland.
Hankinson: Thomas James.
Hawker: Harry Edwin.
Jennings: FitzLaurence Percival Dudley.
Lane: Ernest Lacan.
Rebbeck: Edward Wise.
Rebbeck: Thomas Warren.
Roker: Mitchel John.

Professional Associates:—
Dancaster: Arthur.
Fox: Ernest.
Fox: William.
Hankinson: Francis Henry.
Satchell: Charles.
Walter: Thomas James.

BROCKENHURST.

Fellow:—
Curtis: Charles Edward.

BROOKE.

Professional Associate:—
St. Aubyn: Belville Molesworth.

CARISBROOKE.

Fellow:—
Marvin: Albert Edward.

CHILLAND.

Fellow:—
Arnold: Francis.

CLATFORD.

Fellow:—
Lywood: Edwin.

COMPTON.

Fellow:—
Eames: Edward.

EAST TYTHERLEY.

Fellow:—
Robey: Robert.

FAREHAM.

Fellow:—
Pain: James.

HAMPSHIRE—*continued.*

FARINGDON.

Fellow :—

Warner : Henry

FORDINGBRIDGE.

Fellow :—

Hannen : Reginald St. John.

GOSPORT.

Fellows :—

Coleman : Thomas Everit.
Robinson : Edmund Arthur.

HAMBLEDON.

Fellow :—

Arnold : Francis.

HAVANT.

Fellow :—

Stallard : Alfred Edwin.

HIGHCLERE.

Fellow :—

Rutherford : James Augustine.

LISS.

Professional Associate :—

Dickinson : James Murgatroyd.

LYMINGTON.

Professional Associate :—

Ouvry : Peter Arnold.

NEWPORT.

Fellow :—

Way : Henry James.

PETERSFIELD.

Fellows :—

Goldsmith : Douglas Fleet.
Mitchell : George Sharman.

PORCHESTER.

Professional Associate :—

Wyatt : Archibald.

PORTSMOUTH.

Fellows :—

Hall : Ernest.
King : Thomas.

Professional Associate :—

Jenkins : Richard James

PORTSEA.

Fellows :—

Blake : Frederick.
Kent : George Edward.
King : Thomas.
King : Sir William David.

HAMPSHIRE—*continued.*

RYDE.

Fellows :—

Cocks : Samuel Roger.
Newman : Francis.
Riddett : William Hammond.

Professional Associates :—

Harvey : Frederick Charles.
Riddett : Maurice Charles.

SHOLING.

Professional Associate :—

Heal : Herbert George.

SOUTHAMPTON.

Fellows :—

Blizard : John Henry.
Burnett : Alfred Andrew.
Hill : William Burrough.
Lemon : James.
Perkins : Walter Frank.
Smith : Frederick John.

SOUTHSEA.

Fellows :—

Kent : George Edward.
King : Sir William David, D.L.
Vernon-Inkpen : George Charles.
Walmisley : Joseph William.

SPARSHOLT.

Professional Associates :—

Sparrow : Wm. Hugh.
Williams : Arthur Codrington.

THRUXTON.

Fellow :—

Oliphant : George A. J.

TOTTON.

Professional Associate :—

Lumley : Frederick Robert.

UPTON GRAY.

Associate :—

Seth-Smith : Frederick.

VENTNOR.

Fellow :—

Saunders : Theodore Ridley.

WEST COWES.

Fellow :—

Bird : James Binfield.

WINCHESTER.

Fellows :—

Gudgeon : George Edward
Harris : James.
Newton : Thomas Edwin.
Smith : George Alfred.
Stopher : Thomas.

Professional Associates :—

Arnold : Allen.
Clarke : Leonard Eustace.
Gale : Arthur Witherby.
Sawyer : John Ashton.

HAMPSHIRE—*continued.*

WINCHFIELD.

Fellow:—
Wetherall: Harry Lancaster.

Professional Associate:—
Bruce: Alexander David.

HEREFORDSHIRE.

BRAMPTON-BRYAN.

Professional Associate:—
Smith: Douglas.

BROMYARD.

Fellow:—
Millyard: John William.

HEREFORD.

Fellows:—
Brown: John Powles.
Godsell: George Herbert.
Haywood: Henry.
Haywood: William Matthews.
Parker: John.

Professional Associate:—
Hewitt: William.

HERTFORDSHIRE.

BARKWAY.

Professional Associate:—
Balding: Albert.

BUNTINGFORD.

Fellow:—
Tallent: Edwin James.

CHESHUNT.

Fellows:—
Crawter: John.
Crawter: John, Jun.
Debenham: Frank Gissing.

ELSTREE.

Fellow:—
Burnett: George John Mulcaster.

HARPENDEN.

Professional Associates:—
Grove: Richard Thomas.
Young: William.

HATFIELD.

Professional Associate:—
Cobbe: Henry Alexander.

HERTFORD.

Fellow:—
Austin: Russell Gardiner.

HITCHIN.

Fellow:—
Shilcock: James.

MUCH-HADHAM.

Associate:—
Gayton: Charles.

HERTFORDSHIRE—*continued.*

NEW BARNET.

Fellows:—
Child: Fred.
Hasluck: Lancelot Gerald.
Taylor: Edward Fergusson.

RICKMANSWORTH.

Fellows:—
Couchman: Henry Boteler.
Sly: Joseph Townson.

Professional Associates:—
Carter: Alfred Pesley.
King: William Isaac.

ROYSTON.

Fellow:—
Thurnall: John Edward.

Professional Associate:—
Rowley: William Taylor.

SAWBRIDGEWORTH.

Professional Associate:—
Crawley: William Jeeves.

ST. ALBANS.

Fellows:—
Harding: Sidney Longhurst.
Low: Robert John.
Rumball: Aubrey.
Woodman: Thomas Foster.

Professional Associates:—
Butcher: Thomas Ewen.
Buttenshaw: Ernest Newth.
Hooper: Alfred Egbert.
Lewis: John.

TRING.

Fellows:—
Brown: Arthur Macdonald.
Brown: Frank John.
Foulkes: Septimus Giffard.

WALTHAM CROSS

Professional Associate:—
Stockings: Arthur Perry.

WARE.

Fellows:—
Duvall: John William
Hunt: Thomas.

WARGRAVE.

Fellow:—
Coote: Stanley Victor.

WATFORD.

Fellows:—
Ayres: Charles Pryor.
Pridmore: Albert Edward.
Weall: John.

Professional Associates:—
Brown: William Edward.
Finch: Clement Robert.
Sedgwick: Rupert William.
Taylor: John Francis White.
Weall: John Graham.

Associate:—
Thomas: Hubert.

HUNTINGDONSHIRE.

BRAMPTON.

Fellow:—
Bird: John.

CALDECOTE.

Fellow:—
Preedy: Frederic.

HUNTINGDON.

Fellows:—
Looker: John.
Theakston: William Pease.

ST. NEOTS.

Fellow:—
Peppercorn: John Hutchinson.

Professional Associate:—
Peppercorn: John Arthur.

KENT.

ASHFORD.

Fellows:—
Burrows: Alfred John.
Hobbs: John.
Waterman: James.

Professional Associates:—
Brown: Alexander.
Burrows: Frank Herbert.

BECKENHAM.

Fellow:—
Kerl: William James.

Professional Associates:—
Chester: William.
Ovenden: Charles.

BEXLEY.

Fellows:—
Lucas: William Edward.
Walton: Leon Maitland.

BICKLEY.

Professional Associate:—
Basley: Harold Pullam.

BOUGHTON-MONCHELSEA.

Fellow:—
Smith: George.

BROMLEY.

Fellows:—
Ball: William Alfred.
Latter: Hugh Robinson.
Lepper: John Harrage.
Payne: Frederick.
Rudkin: Arthur John.

Professional Associates:—
Sandell: Stanley Lunan.
Strudwick: Frank Edward.

KENT—*continued.*

CANTERBURY.

Fellows:—
Amos: Frank.
Ashenden: Leonard.
Coulson: William Lindsay.
Harvey: John James Sayer.
Jennings: William Joseph.
Kingsford: Percy Hamilton.
Wacher: Thomas.

Professional Associates:
Adams: Gerald James Frederick.
Blunt: Herbert Arthur Scawen.
Wacher: Thomas Blake.

CHATHAM.

Professional Associate:—
Dunstall: Herbert Henry.

COWDEN.

Professional Associate:—
Darbishire: Harry Vernon.

DARTFORD.

Fellows:—
Dann: Henry.
Prall: Herbert Alexander.
Prall: Herbert Edward.

Professional Associate:—
Seller: Frank Russell.

DEAL.

Fellow:—
Honeyball: Fred Thomas.

DOVER.

Fellows:—
Fry: George Frederick.
Hayward: Frederick George.
Hayward: Henry.
Walmisley: Arthur Thomas.

EDEN BRIDGE.

Professional Associates:—
Merrick: Frederick Walter.
Orwin: Charles Stewart.

ERITH.

Professional Associate:—
Stoneham: Edward Russell.

FAVERSHAM.

Fellow:—
Neame: Frederick, Jun.

KENT—*continued.*

FOLKESTONE.

Fellows:—
Barton: Harry Howe.
Grover: Philip Gordon.
Temple: Frederick Wilson

Professional Associate:—
Meacher: Edward Ernest.

GRAVESEND.

Fellows:—
Cobham: Charles.
Cobham: George William.

Professional Associate:—
Dann: Henry, Jun.

HERNE BAY.

Professional Associate:—
Gripper: Joseph Edward.

HIGHAM.

Fellow:—
Cobb: Herbert Mansfield.

HYTHE.

Professional Associate:—
Wilks: Ernest Stringer.

IGHTHAM.

Associate:—
Luard: Major-Gen. Chas. Edw., R.E.

LINTON.

Professional Associate:—
Champion: George Ernest.

LYDD.

Fellows:—
Finn: Adolphus.
Reeve: Kingsnorth.

MAIDSTONE.

Fellows:—
Cox: Walter Theodore.
Day: William, Jun.
Seymour: Richard Arthur Hamilton.
Tootell: Charles.
Tootell: Joseph.
Waring: Herbert Fuller.
Waterman: Albert James.

Professional Associates:—
Green: Thomas John
Peppercorn: Henry McArthur.

MILTON.

Professional Associate:—
Farnham: William Augustus.

KENT—*continued.*

MINSTER.

Fellow:—
Boulting: Frederick Edward.

MURSTON.

Professional Associate:—
Jarrett: Thomas William.

PADDOCK WOOD.

Fellow:—
Tompsett: William Robert.

PENSHURST.

Professional Associate:—
Fletcher: Harold Vernon.

RAMSGATE.

Fellows:—
Hinds: Henry.
Page: Stanley Hatch.
Vinten: Harold Bertram.

ROCHESTER.

Fellows:—
Cooke: Henry.
Homan: Franklin George.
Homan: Hubert Franklin.
Kidwell: John.
Prall: Herbert Alexander.
Prall: Herbert Edward.

ST. MARY CRAY.

Fellow:—
Strouts: Lewis Herbert.

SELLING.

Fellow:—
Finn: Fred, Jun.

SEVENOAKS.

Fellows:—
Cronk: Edwyn Evans.
Cronk: Frank.
Cronk: William Henry.
Mann: Jabez.

Professional Associates:—
Brooker: Frederick George.
Cronk: Charles Tylee.

SHEERNESS-ON-SEA.

Fellow:—
Child: Henry John.

SHORNCLIFFE.

Fellow:—
Billingham: John Alfred Lawrance.

SIDCUP.

Fellow:—
Snelling: Henry.

Professional Associate:—
Cregeen: Hugh Stowell, Jun.

KENT—*continued.*

SITTINGBOURNE.

Fellows:—
Cowper: William Shapland.
Jackson: William Tress.

Professional Associates:—
Cowper: Richard William.
Elgar: Walter Robinson.

SNODLAND.

Fellow:—
Wood: William.

SWANLEY.

Fellow:—
Hooper: Cecil Henry.

TEMPLE EWELL.

Fellow:—
Phillips: Frederick Hamilton.

TENTERDEN.

Fellow:—
Waterman: James.

THONG.

Fellow:—
Scriven: Charles Herbert.

TUNBRIDGE.

Fellow:—
Tompsett: William Robert.

Professional Associate:—
Sturgess: John Moore.

TUNBRIDGE WELLS.

Fellows:—
Brackett: Arthur William.
Brackett: Frederick Henry.
Brackett: William.
Freeman: Sydney.
Langridge: George,
Member of Council.
Matthews: William.
Parris: Charles John.
Roper: William.
Williams: Henry Cuthbert.

Professional Associate:—
John: Henry Bell.

WEST FARLEIGH.

Fellow:—
Rawlins: William.

WINGHAM.

Fellow:—
Elgar: J. Edward.

WYE.

Fellows:—
Smith: Frank Braybrooke.
Young: Thomas John.

Professional Associate:—
Turner: Benjamin Franklin.

LANCASHIRE.

ACCRINGTON.

Professional Associate:—
Hooper: Gerald Huntley.

ASHTON-UNDER-LYNE.

Professional Associate:—
Hodgkinson: James Henry.

ASTON-UPON-RIBBLE.

Professional Associate:—
Davies: James Geo. Morris.

BARROW-IN-FURNESS.

Professional Associates:—
Plant: William.
Veit: Leonard James.

BLACKBURN.

Fellows:—
Bertwistle: James.
Gradwell: Arthur Richard.
Holt: George Henry.
Robinson: George Edward.

Professional Associate:—
Ruddle: Frederick Charles.

BOLTON.

Fellow:—
Thompson: Francis William.

BOLTON-LE-MOORS.

Professional Associate:—
Collyer: Daniel William.

BURNLEY.

Professional Associate:—
Wilson: James Calvert.

BURY.

Fellows:—
Cartwright: Joshua.
Hopkinson: Alfred.
Nuttall: Herbert.

Professional Associate:—
Mitchell: Lewis.

CARNFORTH.

Professional Associate:—
Jackson: Robert Ewan.

CLAYTON-LE-MOORS.

Fellow:—
Fletcher: Thomas.

CLITHEROE.

Fellow:—
Parmeter: Frank.

DARWEN.

Professional Associate:—
Haywood: Samuel Spence.

DIDSBURY.

Professional Associate:—
Pyer: George Henry.

LANCASHIRE—*continued.*

GATEACRE.

Professional Associate :—
Ward : Martin Hammond.

LANCASTER.

Fellow :—
Roper : John Simpson.

Professional Associate :—
Bradshaw : Arthur George.

LEIGH.

Fellow :—
Fairclough : William.

Professional Associate :—
Selby : John Basely.

LEVENSHULME.

Fellow :—
Nesbitt : John Oscar.

LIVERPOOL.

Fellows :—
Beckwith : Henry Langton.
Hartley : Henry.
Kirby : Edmund.
Lancaster : Charles Holland.
Pain : Coard Squarey.
Thomas : Glegge.
Wainwright : Thomas Taylor,
Member of Council.
Wrennall : William.
Young : Edward Herbert.
Young : Oswald William.

Professional Associates :—
Andrews : Arthur George.
Earle : John Wilfrid.

Associate :—
King : William.

LYTHAM.

Fellows :—
Fair : James Stretton.
Fair : Thomas.
Rea : John Marcus Beaumont.

Professional Associate :—
Perrins : George Latham.

MANCHESTER.

Fellows :—
Bancroft : Frederick Herbert.
Banks : Thomas.
Batey : Henry Simpson.
Bowden : John.
Bradshaw : Harry Greaves.
Brady : Ralph Hollinshed.
Bridgford : Ernest James.
Bridgford : Col. Robert, C.B
Cross : William Haslam.
Dorning : Arthur Harry.
Dunlop : Dugdale Oakley.
Eagle : William.
Earle : Thomas Algernon
Earnshaw : Jacob.
Fairclough : William
Fowler : Alfred Mountain.
Fowler : Henry.

LANCASHIRE—*continued.*

Fellows :—
Hall : John Herbert.
Holden : John.
Hurrell : John Weymouth.
Jackson : Charles.
Larmuth : George Horatio.
Lomas : Albert Daniel.
Maxwell : Francis William.
Meade : Thomas de Courcy
Meller : William Galloway.
Pierson : Charles.
Shelmerdine : Henry.
Taylor : Thomas Walters.
Wallis : John David.
Watts : Samuel Lingard.
Wilson : Lawrence Richard.
Wilson : Thomas Silk.
Wilson : William Henry.

Professional Associates :—
Blundell : Harry.
Bridgford : Leo Appleton.
Cragg : George Edwin.
Corbett : John Rooke.
Morrison : Daniel
Wilson : William Edward.
Witham : James Bernard.

MILNROW.

Professional Associate :—
Foster : William Howard.

ORMSKIRK

Fellow :—
Wolfenden : Thomas.

PATRICROFT.

Fellow :—
Ellis : Francis, Jun.

PENWORTHAM.

Fellow :—
Park : Philip Samuel.

PRESTON.

Fellows :—
Birch : Walter de Hoghton.
Fair : Jacob Wilson.
Fair : James Stretton.
Fletcher : Thomas.
Gregson : George Ernest.
Johnston : Walter Henry.
Myres : John James.
Nevett : Francis Walter.
Nevett : Thomas.
Park : William Philip.
Rea : John Marcus Beaumont.

Professional Associates :—
Dixon : Francis Edward.
Schofield : Peter.
Stead : Edward John.
Turner : Henry.

ROCHDALE.

Fellow :—
Brocklebank : John.

SOUTHPORT.

Fellow :—
Barrow : Thomas Robert.

LANCASHIRE—*continued.*

ST. HELEN'S.

Fellows:—
Campbell: Henry Hunter.
Hanson: Amos.

Professional Associate:—
Davidson: Richard Bruce.

TODMORDEN.

Fellows:—
Brocklebank: John.
Suthers: James.

WARRINGTON.

Fellows:—
MacIver: Colin.
Secker: John Eustace.
White: John.

WIGAN.

Professional Associate:—
Fair: Arthur Edward.

LEICESTERSHIRE.

ASHBY-DE-LA-ZOUCH.

Fellows:—
German: George.
German: George, Jun.
German: Harry.
German: John.

Professional Associate:—
Joyce: Harry Ward.

BELGRAVE.

Professional Associate:—
Luke: John: Jun.

BLACKFORDBY.

Fellow:—
Joyce: John Hall.

FRISBY-ON-THE-WREAKE.

Fellow:—
Perkins: Joseph.

HINCKLEY.

Professional Associate:—
Cook: Frederick Charles.

KIRBY MUXLOE.

Professional Associate:—
Laird: Ninian P.

LEICESTER.

Fellows:—
Clare: Edward Lovell.
Clough-Taylor: Horace George.
Draper: Arthur Thomas.
Everard: John Breedon.

LEICESTERSHIRE—*continued.*

Fellows:—
Goodacre: John.
Goodacre: Robert Johnson.
Haigh: Thomas Frederick.
Hincks: Henry Thorp.
Rolleston: Sir John Fowke Lancelot, M.P., *President.*
Rolleston: Wm. Gustavus Stanhope.
Sebastian-Smith: Charles.
Wade: George Tempest.

Professional Associates:—
Beasley: John Arthur Llewellyn.
Davis: Neville Brookes.
Keay: William.
Snow: Henry Cyprian.

LOUGHBOROUGH.

Fellows:—
German: Harry.
Hampton: Willie Thomas.
Hodson: George.
Woolley: William Edward, *Member of Council.*

Professional Associate:—
Holbecke: Æmilian Henry.

MARKET HARBOROUGH.

Fellows:—
Coales: Herbert George.
Fisher: Charles Browning.
Holloway: Harry Hownam.

MOUNTSORREL.

Fellow:—
Martin: Robert Frewen.

NAILSTONE.

Fellow:—
Thorpe: John.

STOUGHTON.

Professional Associate:—
Burroughes: Charles Fitzpatrick.

WOODHOUSE.

Fellows:—
Humphreys: Henry.
Humphreys: John Henry.

LINCOLNSHIRE.

ALFORD.

Fellow:—
Higgins: Frederic.

BOSTON.

Fellow:—
Hawley: Sir Henry Michael, Bt.

BRATTLEBY.

Professional Associate:—
Wright: Philip Chetwood.

CAYTHORPE.

Fellow:—
Crofts: Ewan Nevile.

LINCOLNSHIRE—*continued.*

GRANTHAM.

Fellow:—

Manner: Henry Alfred.

Professional Associate:—

Thorold: Jame Ernest.

Associate:—

Scott: The Hon. Henry Robert.

HOLBEACH.

Fellow:—

Abbott: William.

HORKSTOW.

Fellow:—

Turton: Edward James.

LINCOLN.

Fellows:—

Legard: Digby Charles.
Woolley: Reginald.

LOUTH.

Fellow:—

Mason: Charles.

SPALDING.

Fellow:—

Kingston: Samuel

STAMFORD.

Fellows:—

Corby: Joseph Boothroyd.
Hussey: Maurice F. G.
Richardson: Charles.
Richardson: James.

UFFINGTON.

Professional Associate:—

Tremlett: Walter William.

WAINFLEET.

Fellows:—

Tindall: Charles William.
Walker: George Booth.

LONDON AND NEIGHBOURHOOD.

Fellows:—

Abbott: William.
Abrams: Benjamin Percy.
Adams: Henry.
Addiscott: Henry Hugh.
Adkin: Benaiah Whitley.
Allen: Percy.
Andrews: John.
Angel: Francis Houghton.
Anscombe: Ernest.
Arding: Charles Bennett.
Arno: Samuel.
Assiter: Harry G.
Ault: Edwin.
Badcock: Philip.
Banks: Frederick Stuart Angus.
Barfield: Frederick Henry.
Barker: Frederick George.
Barker: Horace Richard.
Barnes-Williams: Thomas.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—

Barns: Stephen Allen.
Barratt: Frederic William.
Barry: Dennett Heber.
Bate: Thomas.
Batstone: Rowland Robert.
Battam: Frederick Thomas.
Batterbury: Thomas.
Batting: Walter.
Baxter: George.
Beadel: Maurice Frederick.
Beale: Robert John.
Bedells: Charles Herbert.
Beeston: Frederick.
Beken: George.
Beken: Walter.
Bell: Herbert Owen.
Beven: Septimus.
Bickerton: George Arthur.
Bingham: Alfred John.
Bingham: Frederick Henry.
Bingham: Reuben.
Bird: James Binfield.
Bird: Walter.
Blackbourn: Henry.
Blackford: Arthur.
Blake: Edwin Holmes.
Blake: William John, Jun.
Blakemore: William Agutter.
Blashill: Thomas,
Member of Council.
Blunt: Montague Cecil.
Blyton: George.
Bolam: Charles Godfrey.
Bolden: John Leonard.
Bond: Douglas Vale.
Booker: Algernon Erskine.
Booth: Gilbert William.
Bowdich: Henry.
Bowdich: John.
Boxshall: Henry Edwin.
Boyd: John Jermyn.
Bradley: James William.
Breach: Benjamin I'Anson.
Breeds: Arthur Owen.
Brereton: Franc Sadleir.
Brereton: Thos. Bloomfield Sadleir.
Brewer: Frank John.
Briant: Robert.
Bridgewater: Bentley James.
Brighton: George Lawrence.
Brinsley: Herbert George William.
Brooks: Charles William.
Brooks: John McMullen.
Brooks: Phillip Fuller.
Brown: Alexander Burnett.
Brown: George James.
Brown: George Turville.
Browne: Flint.
Buckland: Alfred Virgoe.
Buckland: Henry Duneau.
Bull: Alfred Edwin.
Bull: Walter.
Burchell: Sidney Herbert.
Burgess: Henry Herbert Phillip.
Burmester: John William Stanley.
Burnett: David.
Burroughes: Thomas Henry.
Bushell: Henry.
Buzzard: Alfred Lindsey.
Byron: Augustus Wm.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows :—

Cable : James M.
Cæsar : Charles Edward.
Carew : John Theodore.
Carritt : Ernest.
Carpenter : Evan George.
Carpmael : Harold.
Castell : Charles Smith.
Castle : Henry James.
Castle : Sydney Charles Courtenay.
Castle : William Henry Baldwin.
Chambers : Theodore Gervase.
Chancellor : Frederick.
Chapman : Henry James.
Charles : Richard Stafford.
Chattell : David James.
Chatterton : George.
Chesterton : Sidney Rawlins,
Cheston : Chester.
Cheston : Horace.
Chew : Henry Victor.
Child : Fred.
Chinnock : Frederick George.
Christy : Archibald Ernest.
Clark : Samuel.
Clarke : Ernest Seymour.
Clarke : George Ernest.
Clarke : Howard Chatfeild.
Clarke : Percy Henry.
Clarke : Stanley Chatfeild.
Clarkson : John.
Clarkson : William.
Clarkson : William, Jun.
Clifton : William Edward.
Clutton : John Henry.
Clutton : Ralph.
Clutton : Robert George.
Cobb : Herbert Mansfield.
Collier : Walter Henry.
Collingham : John Cyril Lees.
Collins : Henry Hyman.
Collins : Horace.
Collins : Marcus E.
Colyer : Frederick.
Conder : Alfred.
Cooper : Alfred William.
Cooper : John Robert.
Cope : Henry James.
Corderoy : Athelstane.
Corderoy : George.
Coverdale : Henry.
Cranfield : William Bathgate.
Crawter : John, Jun.
Crickmay : George Rackstrow.
Crier : John Thomas.
Crockett : Edwin Arthur Brassey.
Cronk : Edwyn Evans.
Cronk : Frank.
Cross : Arnold Charles Martin.
Crowther : Keston Nelson.
Cruwys : Robert.
Culverhouse : Cecil Goldar Fearn.
Currey : Percivall.
Curtis : Robert Leabon.
Cuxson : George Austin Pryce.

Dallas : Edwin Stuart.
Dangerfield : Thomas Samuel.
Darch : John.
Dash : Roland Ashford.
Daubney : Charles Archibald.
Davies : David Thomas.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows :—

Davies : George Humphreys.
Davis : Charles James.
Davis : James.
Daw : William Herbert.
Dawson : Percy John.
Deacon : Thomas Mark.
Debenham : Frank Bridgewater.
Debenham : Frank Gissing.
Debenham : Frederic Kersey.
Debenham : Horace Bentley.
Dendy : William Cooper.
Dinwiddy : Donald.
Dinwiddy : Thomas.
Doll : Charles Fitzroy.
Dollar : Peter.
Done : John James.
Donne : Henry.
Dowden : Henry Joseph.
Downing : Frederick.
Downing : Henry Philip Burke.
Dowsett : Charles Finch.
Driver : Charles William.
Driver : Robert Manning.
Drury : Edward Dru.
Duncan : James Morison.
Dunn : William Henry.
Dyball : Harvey.
Dyer : William John.

Eales : Frederick Ernest.
Eagland : William Francis.
Eason : Edward William.
Egerton : Hubert Decimas.
Eiloart : Frederick Edward.
Eldridge : Herbert.
Elgood : Frank Minshull.
Ellis : Frederick.
Ellis : Herbert Moates.
Ellis : Ralph Staples.
Ellis : Richard Adam.
Ellis : Sir John Whittaker, Bart
Elwell : William Henry.
Emery : Arthur James.
Emmanuel : Barrow.
Evans : George.
Eve : William.
Eve : William Harold.
Everington : John.
Eves : Francis George Bertram.
Eves : William Lionel.

Farmer : Edmund.
Farmer : Hugh Cecil.
Farnan : Henry Richard.
Farrar : Sidney Howard.
Farthing : Walter Thomas.
Field : James Frederick
Fitt : Harry Charles.
Fleetwood : George.
Fletcher : Banister Flight.
Fletcher : Herbert Phillips.
Flint : William Hurst.
Ford : Lawton Robert.
Ford : Solomon.
Foster : Charles Rolls.
Foster : Frank.
Foster : James Herbert Furmedge.
Fowler : Alfred Mountain.
Fowler : Sydney.
Fox : Edwin.
Frampton : Alfred.
Francis : George Futvoye.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—

Francis : Leon Albert.
Franklin : Arthur Thomas.
Franklin : Thomas Frederick.
Freeman : Sydney.
Fry : Joseph Harry.
Fuller : Ernest.
Fuller : Harry.
Fuller : Herbert Henry.
Furber : Herbert.
Furber : Percy Norman.
Furber : William.

Gairdner : Edward James
Gale : Arthur John.
Gale : Ernest Sewell.
Galsworthy : Frederick Thomas, *Vice-President.*
Gamble : Sidney Gompertz.
Gandy : James.
Gardiner : Edward James.
Gardiner : Robert Strachan.
Garner : John Stanley.
Garrood : Thomas William M.
Gate : Alfred Joseph.
Gate : Henry Arthur Armytage.
Gibbon : William Jacomb.
Giddy : Osman Horton.
Gilbert : William Henry Sainsbury.
Girdwood : James.
Glasier : George Henry Brougham.
Gleed : Richard Cummings.
Glover : Henry Alexander.
Goldsmith : William.
Goadby : Howard.
Goodchild : Josiah.
Goodwyn : Leonard William.
Gore : Spencer W.
Goulding : Arthur.
Goulding : William Purdham.
Gouldsmith : George Waller.
Gover : Arthur Sutton.
Gover : John Richard.
Graves : Walter.
Green : Alexander Ernest.
Green : Edmund Horace.
Green : Frederick Algernon.
Green : James.
Gregory : Alfred.
Grellier : Harley Mair.
Griffin : Alfred.
Griffin : Harold.
Griggs : Robert.
Grose : Vincent John.
Grover : Arthur.
Gruning : Edward Augustus.
Gwyther : William Warlow.

Hale : Raymond Henry.
Hall : Walter.
Hall-Jones : Frederick.
Hallett : William Brown.
Hamilton : John.
Hampton : Geo. Frederick Wm.
Hansell : Reginald Goddard.
Hardcastle : Fredk. Henry Appleton.
Harding : Edward Ernest.
Harland : Marchant James.
Harrington : George Frederick.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—

Harrison : George John Robertson.
Harrison : Richard Creese.
Harston : Arthur.
Hart : William Frederick.
Haskins : William Albion.
Healing : Oswald Judd.
Head : John George.
Heath : Henry.
Hedley : Robert Wilkin.
Heelis : William.
Henderson : Henry Arthur.
Heward : Ernest James.
Hickson : Stephen Westby.
Higgins : George.
Hilton : John.
Hine : George Ernest.
Hine : George Thomas.
Hobson : Frederick William.
Hodson : George.
Hodson : William.
Holland : Thomas James, Jun.
Hollingsworth : Arthur Augustus.
Holman : George Edward.
Holmes : Montagu.
Hood : Walter Richard.
Hope : Arthur Ernest.
Hope : William Elliott.
Hopkins : Alfred James.
Horne : Edmund.
Horne : William Edgar, *Member of Council.*
Horsey : Frederick John Terry.
Houghton : Frederick.
Houghton : John Pounds.
Houghton : Thomas Marcus.
Houghton : William.
Hovenden : Henry Edward.
Hudson : Arthur Byrne.
Hudson : Edward William.
Hugman : Charles Eady.
Hunt : Frederick Cope.
Hunt : Frederick William H.
Hunt : Henry Arthur.
Hunt : Josiah.
Hunter : Cecil.
Hussey : Samuel Murray.

I'Anson : Edward Blakeway.
Ingram : Henry Law.
Inman : Marshall Nisbet.
Inman : William Nutter.

Jarmain : William.
Jarman : Frank Wilmot.
Jeffree : Sydney.
Jenkinson : John.
Jenkinson : William Eric Leigh.
Jenkinson : William Wilberforce.
Jerome : Thomas Stroud.
Johnson : Bernard Marr.
Johnson : Henry.
Jonas : Henry.
Jones : Charles.
Jones : Charles Frederick.
Jones : Ernest Joel.
Jones : Henry Arthur.
Jones : Thomas.
Joseph : Delissa.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—
Kedgley : Charles.
Keirle : Robert.
Kennedy : James.
Kerl : William James.
Kersey : Alexander Henry.
King : Alfred.
Kirk : John Wright.
Knight : Edgar Walsh.

Lacey : John Turk.
Lake : Cuthbert Joseph.
Lambert : Godfrey Charles.
Lancaster : John Roy.
Lang : Charles Augustus.
Lang : Charles Frederick Dashwood.
Lawrance : Walter.
Lawrence : William Robert.
Leaning : Henry John.
Leaning : John.
Leaning : William Arthur.
Lee : Charles William.
Lee : Ernest Edward Arthur.
Lee : Frederick.
Lee : John Wilfrid.
Lee : Philip Shirling.
Lee : Sydney Williams.
Letts : Thomas Hollins.
Lightfoot : Francis Lowry.
Littlewood : Lionel.
Lloyd : George Hamilton.
Lofts : Henry.
Lofts : Henry Fairlam.
Lovegrove : Henry.
Low : Robert John.
Lowe : Charles Harlowe.
Luker : Dyneley.

McCarthy : Henry Robert.
McDermott : N. Bernard.
Maddox : Harry Edward.
Maliett : William Robert.
Mann : Charles John.
Mann : James Bagshaw.
Mann : Robert Bagshaw.
Marks : Hyman.
Marr : James.
Marshall : Arthur George.
Marriott : George Wharton.
Martin : George Dennis.
Martin : Howard,
Member of Council.
Martin : Samuel.
Martin : Thomas.
Masterman : George Hughes.
Mathews : Joseph Douglas.
Matthews : Douglas Samuel.
Mellenfield : James Henry.
Mellor : Thomas Henry.
Mercer : Charles Edward.
Messenger : Henry.
Middleton : Reginald Empson.
Migotti : Alphonzo.
Millar : Charles William.
Millard : Edward.
Mixer : Edward.
Monckton : Henry Percival.
Monier-Williams : Stanley Faithful.
Montagu : Henry Havelock.
Moody : Thomas.
Moore : Alfred.
Moore : Harold Edward.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—
Morris : George Field.
Morris : Harold George.
Morris : Richard Percival.
Moss : Thomas Walter.
Moxon : Herbert William.
Mould ; Graham Harley.
Muller : John Joseph.
Mundy : Thomas Edward.
Murray : William.

Neale : George James.
New : Edward Vorley.
Newman : Arthur Harrison.
Newman : Charles Henry.
Newman : Samuel Frank.
Newmarch : Henry Charles.
Newson : Harry Carss.
Newton : Edwin Bennett Brierley.
Nicholson : William Abernethy.
Nisbet : John.
Norman : James Maurice.
Norman : James Noel.
Norman : William Horace.
North : George.
Northcroft : Henry.
Norton : Thomas Herbert.
Notley : Richard Albert.
Notley : Robert Pledge.
Nottage : William Griggs.

Oakley : Christopher Percival.
Oakley : John Hubert.
Ogden : Michael Guy.
Orgill : John Berwick.

Page : Robert.
Pain : William.
Parker : Charles Alfred.
Parker : Stanley.
Parnacott : Alfred.
Parr : Samuel.
Parr : Samuel George.
Parry : Richard.
Partridge : Edward John.
Patch : Shirley Hutchins.
Paull : Alan.
Payne: Alexander.
Pearce: Fred W.
Pearson: Harry John
Pearson : Howard.
Peck : William Roland.
Penfold : John Wornham,
Honorary Secretary.
Perriam : Alfred Joseph.
Pether : Harry.
Phillips : William.
Pilditch : Philip Edward.
Pinder : Richmond.
Pineger : James Reginald.
Pinks : Edwin Charles.
Poston : Henry.
Potter : Herbert George.
Powell : Frederick Atkinson.
Preston : Samuel David.
Price : Richard Arnold.
Pridmore : Albert Edward.
Pridmore : Arthur Stirling.
Pritchard : Herbert Alfred.
Purchase : Edward Keynes.
Purvis : Charles James.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—

Raffety: Herbert William.
Rawlins: Henry Adair.
Rawlins: William.
Read: George Huntly.
Rees: William Andrew.
Reid: Arthur Fletcher.
Rex: Francis Herbert.
Richards: Alfred.
Richards: William.
Richardson: Arthur Bayliff
Richardson: Oliver Archer.
Rickman: Thomas Miller,
Past-President.
Riddle: Frederick Henry Brimble.
Ridley: Percy Edward.
Roberts: Charles Quincey.
Roberts: Henry Croydon.
Roberts: Richard.
Robins: Philip Seymour.
Robinson: Charles Edward.
Robinson: Henry.
Robinson: Henry Herbert.
Robinson: Theodore Richard.
Robson: Edward Robert.
Rogers: Horace Mordaunt.
Rogers: William Bennett.
Rolleston: Sir John Fowke Lancelot,
M.P., *President.*
Roods: Alfred.
Rooke: Alfred Bradley.
Ruault: John Gustave Peter.
Rüntz: Ernest Augustus.
Russell: Murray Lawrence.
Rushworth: Edmund Walter.
Rutley: Charles.
Rutley: Frank.
Ryan: William Patrick.
Ryde: Arthur Lyon.
Ryde: Charles Bertram.

Sadler: George William, Jun.
St. Quintin: Perry.
St. Quintin: Richard Samuel.
Sanday: George Henry.
Saunders: Charles Herbert.
Saunders: Edward.
Saunders: Martin Luther.
Saunders: Rutland.
Savill: Alfred,
Member of Council.
Savill: Alfred, Jun.
Savill: Edwin.
Sedgwick: Alfred Sydney Edward.
Selby: Charles Frederic.
Sexton: George Alexander.
Shackle: Edward Neild.
Sherrin: John Lester.
Sherwin: Joseph Henry.
Shilcock: James.
Shone: Isaac.
Shoppee: Charles Herbert.
Simms: Walter.
Single: Arthur.
Skipper; Henry Herbert.
Skitt: Arthur.
Skrimshire: Samuel.
Skues: Charles Ayre Mackenzie,
Slade: James Benjamin.
Slater: Charles Frederick.
Smith: Charles Gordon.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—

Smith: Edward.
Smith: Frank Adams.
Smith: Frederick Robert.
Smith: Henry Herbert.
Smith: John Moore.
Smith: Percy Pyne Caldecott.
Smith: Sydney Arthur.
Smith: Sidney Robert James.
Snelling: Henry.
Squarey: Elias Pitts,
Past-President.
Squarey: Newell William Pitts.
Squire: Richard.
Standen: Arthur C.
Stanford: George.
Stanger: Samuel Arthur.
Stanham: George Gordon.
Stedman: Charles Mason.
Stenning: Alexander Rose,
Member of Council.
Stephenson: Charles William.
Stevens: Charles Vivian.
Stevens: John William.
Stevens: William Charles.
Stevenson: Edmund Herbert.
Steward: Herbert Thomas,
Vice-President.
Stock: Henry.
Stoner: Alfred.
Street: William Charles.
Strudwick: Hayward James.
Strutt: The Hon. Edward Gerald,
Member of Council.
Sutton; Frederick Stanley.
Swain: Ernest.
Swain: Frank.

Tabberer: Benjamin.
Tanner: Henry.
Tapp: Arthur.
Tasker: Henry Hugh.
Taylor: Arthur William.
Taylor: Edward Fergusson.
Taylor: John Herbert.
Taylor: Richard Frederick.
Tee: Samuel Clifford.
Tewson: Edward.
Tewson: Edward Arthur.
Theobald: Henry.
Theobald; Henry Wells Dewhurst.
Theobald: John Meadows.
Thomas: John Henry.
Thompson: Arthur Edward.
Thompson: Robert James.
Thynne: Edward Lewis
Thynne: Guy Harry.
Tidman: Edward.
Tootell: Richard William.
Trafford: Frederick Charles.
Treadwell: Henry John.
Trist: John William.
Trollope: Charles Brown.
Trollope: Henry Charles.
Trumper: John Alfred.
Tubbs: Walter Burnell.
Tuckett: Percival Fox.
Turner: Alexander Henry.
Turner: Thomas Neve.
Tutt: Edwin Thomas.
Tyler: James William.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—
Upsdale : Andrew Reed.

Vaizey : John George.
Vernon : Arthur,
Vice-President.
Vigers : Astley.
Vigers : Leslie Robert,
Member of Council.
Vigers : Martin.
Vigers : Robert,
Past-President.

Wadling : Henry John.
Wadmore : Beauchamp.
Wagstaffe : Thomas Rogers.
Walcott : Lyons Roden Sympson.
Walker : Samuel.
Wallace : George.
Walmisley : Arthur Thomas.
Ward : George.
Warmington : Herbert Andrew Cromartie.
Warner : Alfred Ernest.
Warner : William Henry,
Waters : William Richard.
Watney : Daniel.
Past-President.
Watney : Dendy.
Watney : Walter Daniel.
Watts : Charles.
Weatherall : Henry.
Weaver : William.
Webster : Hugh Calthrop.
Wells : William Henry.
Wenborn : Sidney Thomas.
West : Charles Henry Edward.
Wharton : Thomas George.
Wheatley : Stephen Gladstane.
Wheeler : John Henry West.
White : William Henry.
Whiteley : Charles Percy.
Whittaker : John Dronsfield
Wilkinson : George Ayscough.
Wilkinson : George Herbert.
Williams : Leonard James.
Williams : William Herbert.
Willis : Edward.
Wilson : Frederick Robert.
Wilson : Sir Jacob.
Withall : Latham Augustus.
Wonnacott : Ernest Wm. Malpas.
Wood : Charles Bruce.
Wood : John Daniel.
Woodbridge : Stephen, Jun.
Woodrow : Thomas John.
Woods : Arthur George.
Woods : Thomas.
Woodthorpe : Edmund.
Woodward : William.
Wreathall : Robert T.
Wright : George Thomas Green.
Wrightson : Arthur Frederick.

York : Henry.
Young : Andrews.
Young : Douglas.
Young : Morgan Henry.
Young : Thomas.

Professional Associates :—
Adams : Herbert.

LONDON AND NEIGHBOURHOOD—*continued.*

Professional Associates :—
Addiscott : Henry Hugh.
Allsebrook : Arthur.
Allpress : Horace Edward.
Anderson : Thomas John.
Andrews : Herbert George.
Andrews : Stephen Hampton.
Arno : Samuel.

Baddeley : Bernard Beresford.
Balding : Albert.
Ball : James Benjamin.
Banks : Edward John Stanley
Baylis : Alfred William.
Bedwell : Ernest Charles.
Beken : George, Jun.
Bentley : Harold Edwin.
Berry : Charles Windsor.
Betenson : Frederic Roger.
Bettridge ; John Charles Lebon.
Bickford : Joseph Grant.
Bird : John Bowyer.
Blackshaw : Charles.
Bliss : Thomas Cushway.
Blount : Edward.
Blyth : George Alfred.
Boden : Maurice.
Bösher : Victor Evans.
Bowden : Harry.
Bousfield : Edwin Vaughan Davenport.
Brevetor : Thomas.
Bridgewater : Clement Joseph Bentley.
Briggs : John.
Brinacombe : Charles Seymour.
Brown : Arthur Allen.
Brown : Frederick.
Brown : Wm. Lobin Trant.
Bruton : Basil Vassar.
Buckland : William Thomas.
Bulbeck : George.
Burgess : Henry Herbert Philip.
Burton : Reginald Robert.
Buss : Fleetwood George William.

Cardall : Frederic William.
Cassin : Charles Langa.
Cathcart : Archibald Hamilton The Hon.
Chadwick : Spencer.
Chalcraft : Henry Terrell.
Chapman : Vaughan Godfrey St. John.
Chart : Christopher.
Chattell : Francis Loriot.
Chesterton : Frank Sidney.
Chesterton : Sidney James.
Church : Geoffrey Redmore.
Clarkson : William.
Clayden : Walter.
Clegg : Robert Langton.
Cobb : Henry Alfred William.
Cole : George Harry.
Collier : Arthur Charles.
Cooke : Lionel.
Cooper : George Augustus.
Cope : William George.
Corfield : Thomas.
Councell : Thomas James.
Cowin : Norris Tynwald.
Cramphorn : Charles Hubert.
Cresswell : John Theodore Ross.

LONDON AND NEIGHBOURHOOD—*continued.*

Professional Associates:—
Crook : Hollis Augustus.
Crouch : James Leonard.
Cudlipp : William.
Cullen : Felix Victor.
Cumberbatch : Carlton Parry.
Cutler : George Alfred.

Dadd : Charles John Thomas.
Daffarn : Thomas Alfred.
Dafforn : George Bertie.
Daniel : Henry Wilkinson.
Davidge : William Robert.
Davies : John William Satterley Humphreys.
Dawson : Henry Aufrere.
Dawson : Walter Henry.
Delamare : Frank.
Dellschaft : Adolph Henry.
Douglas : Bernard Moxon.
Draper : Edwin Maxwell.
Drew : Allen.
Dunt : John Harlow.

Easton : Walter John.
Ellis : Alfred Cave.
Ellis : Rupert Maurice.
Evans : Ernest Sydney.
Evans : Percival Baker.

Fagg : Edwin William.
Few : Harry Garrard.
Field : Charles Roland.
Fisher : Robert.
Fitness : John Francis.
Fleetwood : Geo. Spalding.
Fletcher : George Rivers.
Foster : Edward Chas.
Foster : Walter.
Fowler : Alfred Charles Stanley.
Freeman : George.
Funnell : Horace Frederick.
Furber : Henry Aubrey.

Galsworthy : Vincent Somers.
Garrard : Arthur Norman,
Professional Associate of Council.
Garrett : Arthur Berry.
Gilbert : John Sainsbury.
Goadby : Joseph Stubbins.
Goodman : Alfred.
Gore : William Joll.
Grant : Joseph.
Gray : Horace Norman.
Green : Arthur Edward.
Green : James Henry Townsend.
Greenop : Edward.
Greenwood : Ernest.

Hall Augustus William.
Hall : Clement Arthur.
Hall : John Sebastian.
Hamilton : John Paynter.
Hankey : Gilbert Lionel.
Harding : Frederick Allcroft.
Harper : Edgar Josiah.
Hartley : Tom Percy.
Hassett : Reginald Charles.
Hawkins : John Frederick.
Head : William Alfred.

LONDON AND NEIGHBOURHOOD—*continued.*

Professional Associates:—
Heath : Henry Cubitt.
Hebden : George Radcliffe.
Heckford : Harley.
Hedger : Arthur Constantine.
Hellicar : George Thomas.
Henry : Edward Hugh.
Hicks : Stanley.
Hicks : William Rooke.
Hider : Sydney William.
Hinks : Henry.
Holmes : James Thomas.
Holmes : John Edward.
Hope : Arthur Ernest.
Horton : William Phelps.
Howell : Ernest John.
Howes : Arthur Burnaby.
Howgrave-Graham : Alan Herbert.
Howgrave-Graham : George Ernest.
Hudson : Albert William.

Innes : Gilbert Plantagenet Mitchell

Jessett : Charles.
Jessett : Charles Edward Vernon.
Johnson : Frederick John.
Johnston : Reginald.
Jonas : Harold Driver.
Jones : Arthur Bayly.
Jones : Percy Everley.
Jordan : George Henry.
Jull : William Vincent.

Kemsley : Norman Bolton.
Kelly : Arthur Ralph.
Key : Astley Cooper.
Kibblewhite : Henry James Treleaven.
Knight : George Edward.
Knibb : Frederick Charles
Knowles : George Potter.

Lamprill : William Thomas.
Lanham : Lawrence.
Lansdown George Arthur.
Larkin : Richard Webster.
Latham : Albert Tummons.
Laurence : Walter Bernard.
Lawley : Frederick William.
Leake : Robert.
Lee : Ernest Edward Arthur.
Leigh : Vincent Stanley.
Lemmoin-Cannon : Henry.
Lewis : Arthur Llewelyn.
Lickis : Leonard.
Lightfoot : John George.
Lisney : Harry.
Little : Henry.
Living : Charles, Jun.
Lomax : Ernest George.
Lovegrove : Charles Gresham.
Lowe : Charles Robert.
Lucas : Joseph.
Luck : George Edward.
Lumley : Edward Adrian.
Lynch : James Henry.

Macer : Alfred Thomas.
Mager : Sydney.
Maggs : Leonard.
Marcus : William Mortimer.
Martin : Alexander Wm.
Mason : Charles William Hayley.

LONDON AND NEIGHBOURHOOD—*continued.*

Professional Associates:—
Matthews : Douglas Samuel.
May : William Charles.
Mayne : Charles Millard.
Melrose : Frank.
Meredith : Percy William.
Merrett : James.
Miller : Frederick William.
Mills : Arthur Ernest.
Milnes : Robert.
Moat : Ernest William.
Molyneux : Herbert Ernest.
Morle : Denzil Adair Bartlett.
Morrison : Daniel.
Mullett : Henry Thomas.
Mumby : Elvin Fowler.

Newman : Henry Arthur.
Newman : Walter Phillip.
Nicholson : Ebenezer.
Nicholson : Guy Murray.

Oldnall : Roger William.
Osbourn : Edward.

Parker : Frederick William.
Parnacott : Arthur Charles.
Parry : Herbert Mostyn.
Paul : John William.
Pearce : Charles Frederick.
Pearce : Francis Arthur.
Pearce : Frederick William.
Pease : Charles Edward.
Peebles : Philip.
Perks : Sydney.
Pewtress : Herbert Wilmshurst.
Phillips : John Henry.
Physick : Walter Frederick.
Pineger : James Reginald.
Pinfold : Francis Arthur.
Potter : Shirley Herbert.
Pratt : Frank Percy.
Price : Capel Hereward.
Protheroe : Alfred Ernest.
Pyle : Benjamin Thomas Rice.

Ransom : Thomas Reginald.
Read : Walter Herbert.
Reed : Richard George Gordon.
Reeve : Douglas William.
Richardson : Ernest Edward.
Robbins : Walter Francis.
Roberts : Charles Gordon.
Robertson : Henry Charles.
Robinson : Ralph Eteson.
Rogers : Percy Willben.
Rogers : Thomas George.
Ross : David James.
Ruddle : Frank J.
Rutley : Arthur Dennett.

Sabin : Joseph Henry,
Professional Associate of Council.
Saunders : Edgar Walter.
Saker : Sidney.

LONDON AND NEIGHBOURHOOD—*continued.*

Professional Associates:—
Sanday : William Henry.
Satchell : Herbert Arnold.
Scoble : Herbert Thomas.
Searle : Sydney.
Seddon : George Farquharson.
Selby : Frank.
Sexby : John James.
Shearburn : Harry.
Shearer : James Hughan.
Sherry : Nathaniel.
Shettle : Edward Gurney.
Skingle : Alfred
Skingle : Alfred Charles.
Slade : Isaac.
Smith : Charles Gordon.
Smith : George Henry.
Smith : Sydney Arthur.
Stacey : Frederick Charles Webster.
Stacey : William.
Stainton : Francis Charles.
Stanton : Frederick William Shultheiss
Stevenson : Frederick J.
Stimson : Herbert Percy.
Stokes : Hugh Charles.
Stower : Joseph.
Straker : Howard.
Stubbing : Richard Webb.
Stupart : Charles Walter.
Sturgess : John Moore.
Sturley : Arthur Dyson.
Summerfield : Joseph Charles.
Sutton : Frederick Stanley.
Swan : Harrold.

Taylor : George.
Terry : Frank Treacher.
Tewson : Leonard
Thomas : George.
Thompson : Alfred.
Thompson : Joseph Atherden.
Thompson : Roland O'Brien.
Thurgood : Ernest Charles.
Tighe : Arthur.
Townsend : George James.
Townley : Ronald Starkey.
Trehearne : Alfred Frederick Aldridge
Trent : William Edward.
Tyler : William.

Verity : Ernest George.

Wain : George Sparrow.
Waldram : Percy John.
Walker : Leon Victor.
Walker : William Selves.
Walsh : Frederick Leopold Morfee.
Walton : Edgar Thomas.
Warren : William Ernest.
Watson : George.
Watson : William James.
Weatheritt : James.
Weekes : Cyril Swaffer.
Wells : Edward Ogbourn.
West : Herbert James
West : Sidney Herbert

LONDON AND NEIGHBOURHOOD—*continued.*

Professional Associates:—

Weston: George.
Wetenhall: Edward Box.
White: Benjamin William.
Whiteley: Cyprian Charles Oswald.
Wilde: Sidney Algernon.
Wilkinson: Percy Newton.
Williams: Peter Lloyd Armstrong.
Williams: Richard Ernest Havard.
Willoughby: Charles Albert.
Willoughby: Charles William.
Wilson: John Hayes.
Wontner-Smith: Percy.
Wood: John Edward.
Woodcock: Frank Sydney.

Woolnough: Tom.
Worthington: James Scott.
Wright: Thomas Henry.

Young: James Dawbarn.
Young: Kenneth James.

Associates:—

Adkins: William Ryland Dent.
Alverstone: The Right Hon. Lord. G.C.M.G., Lord Chief Justice of England,
Associate of Council.
Bankes: John Eldon, K.C.
Barnes: George Frederick.
Barry: Charles Edward.
Barry: Sir John Wolfe, K.C.B.,
Associate of Council.
Beale: James Samuel.
Bellewes: George Oliver.
Boulger: George Edward Simonds.
Bramwell: Sir Fredk. Joseph, F.R.S.
Bund: John W. Willis.

Cadell: George.
Castle: Edward James, K.C.
Clarke: Sir Edward, K.C.
Clarke: Sir Ernest.
Clode: Walter.
Clutton: Hubert Spencer.
Colam: Robert Frederick.
Courthorpe-Munroe: Harry.
Coward: John Charles Lewis.
Cripps: Charles Alfred, K.C., M.P.

Danckwerts: William Otto Adolph Julius, K.C.

Emden: T. Walter L.

Freeman: George Mallows, K.C.
Freshfield: Edwin.
Freshfield: William Dawes.

Glen: Reginald Cunningham.
Grantham: Richard Fuge.

Hamilton: Henry Best Hans.
Hudson: Alfred Arthur.

King: Walter George.

Leworthy: John Henry.
Littler: Ralph Daniel Makinson, K.C.

LONDON AND NEIGHBOURHOOD—*continued.*

Associates:—

Marriott: The Right Hon. Sir William Thackeray, K.C.
Marshall: Frederick.
Mence: Phillip Allan.
Milles: Charles William.
Moulton: John Fletcher, K.C., M.P.

Pain: Arthur Cadlick.
Pinches: Edward Edwin.
Pollard: Edward Hutchinson.
Pope: Samuel, K.C.

Redman: Joseph Haworth.
Rees: John Charles
Richards: Henry Charles, K.C., M.P.
Rickards: Arthur George.
Rigg: Herbert Addington.
Russell: Charles Alfred.
Ryde: Walter Cranley.

Smith: John Edward.
Statham: William Arnold.
Stephens: Pembroke S., K.C.
Stevens: William Richard.
Stutfield: Alfred Robert Ogilvie.
Sutton: Henry.

Thomas: George James.

Vaughan: Edward Joseph.
Veasey: Thomas Frederick.

Warren: Reginald Augustus.
Wheeler: Thomas Whittenbury, K.C
Will: John Shiress, K.C.
Winckworth: Lewis.

Colonial Fellows:—

Nisbet: John.
Rogers: Colin Percy.

MONMOUTHSHIRE.

CHEPSTOW.

Professional Associate:—

Marchant: Robert Charles.

DIXTON.

Fellow:—

Wanklyn: Phillip Endell.

LLANOVER.

Professional Associate:—

Addie: John Heathcote.

MONMOUTH.

Fellow:—

Powell: Frederick Atkinson.

NEWPORT.

Fellows:—

Graham: William.
Hitchcox: William.
Rees: William George.
Tanner: William.

Professional Associate:—

Griggs: Henry Jenner.

MONMOUTHSHIRE—*continued.*

PONTYPOOL.

Fellow·—
Llewellin : David Morgan.

TROY.

Professional Associate:—
Brierley : Hugh Colley.

USK.

Fellow:—
Graham : Arthur Gore.

NORFOLK.

ATTLEBOROUGH.

Fellows:—
Bacon : Frank Mace.
Bacon : Horace.
Salter : William Herbert.

BRANDON.

Fellow:—
Selby-Bigge : Charles P. O.

CASTLE RISING.

Fellow:—
Beck : Arthur Clement.

CASTON.

Professional Associate:—
Scorer : Alfred George.

DISS.

Fellow:—
Gaze : Thomas William.

DOWNHAM MARKET.

Fellow:—
Hawkins : Charles.

EAST DEREHAM.

Fellow·—
Ireland : Edwin Benjamin.

EAST RAYNHAM.

Fellow:—
Gayford : Henry John.

GRIMSTON.

Professional Associate:—
Freuer : William Samuel.

HOLKHAM.

Professional Associate:—
Hawes : Frederick Kirk.

HORSTEAD.

Fellow·—
Falcon : Michael.

NORFOLK—*continued.*

KING'S LYNN.

Fellows:—
Easter : William.
Wilkin : Horace Martin.
Wright : William Edward.

Professional Associate:—
Hawkins : Lancelot Goulder.

NORTH WALSHAM.

Professional Associate —
Barratt : Leigh.

NORWICH.

Fellows:—
Bailey : Harry David Chinery.
Beck : Edward William.
Hornor : Charles Jared.
Hornor : Francis.
Mills : Samuel Mealing.
Morgan : Benjamin Brauford.
Rose : Thomas.
Scott : Augustus Frederic.

Professional Associates:—
Arnold : Harry Hagon.
Budger : Percy Morris.
Forster : Walter Hill.
Lee : Henry.
Spelman William Wilton Rix.
Waters : Frank.

SANDRINGHAM

Fellows:—
Beck : Arthur Clement.
Beck : Frank Reginald.

SWAFFHAM.

Associate:—
Hamond : Thomas Astley Horace.

THETFORD.

Professional Associate:—
Menzies : Robert.

WEST RUDHAM.

Fellow:—
Freuer : William.

NORTHAMPTONSHIRE.

HORTON.

Fellow:—
Cave : Thomas Newman.

KETTERING.

Fellow:—
Bolam : Charles Godfrey.

NORTHAMPTON.

Fellows:—
Merry : Thomas.
Scriven : Richard George.

NORTHAMPTONSHIRE—*continued.*

OVERSTONE.

Fellow:—
Dickson: Thomas Arthur.

PETERBOROUGH

Fellows:—
Laurance: John.
Woodford: Lionel Burnet.

PRESTON CAPES.

Professional Associate:—
Robinson: John Brooke Wood.

RUSHDEN.

Professional Associate:—
Burr: Harry.

THRAPSTON.

Fellows:—
Bletsoe: Henry Hopkinson.
Edmonds: John.

Professional Associate:—
Mackenzie: Hector John Maxwell.

TOWCESTER.

Fellow:—
Aris: John Whitton.

SYWELL.

Fellow:—
Holl: Mackintosh Meleng.

WANSFORD.

Professional Associate:—
Jolly: Pearson Alexander.

WEEDON.

Fellow:—
Cresswell: William Thomas.

NORTHUMBERLAND.

ALNWICK.

Fellow:
Wilson: Sir Jacob.

Professional Associates:—
Hall: Frederick Walter.
Hindmarsh: Michael Anselm.

BOTHAL.

Fellows:—
Sample: Thomas.
Sample: William Collings.

GOSFORTH.

Fellow:
Aynsley: Robert John.

HALTWHISTLE.

Fellow—
Clark: John McClare.

HEXHAM.

Fellow:—
Clark: John McClare.

NORTHUMBERLAND—*continued.*

MATFEN.

Fellow:—
Sample: Charles Herbert.

NEWCASTLE-UPON-TYNE.

Fellows:—
Armstrong: Thomas John.
Bolam: William Thomas.
Durlacher: Alexander Percy.
Forsyth: Thomas Hills,
Taylor: Harry William.
Taylor: John Walton.

Professional Associates:—
Allen: John Parnell.
Hindmarsh: Ralph Frederick.
Town: Henry Annandale.
White: William, Jun.

WOOLSINGTON.

Professional Associate:—
Watson: Claude Henry.

WYLAM.

Fellow:—
James: Christian Hugh.

NOTTINGHAMSHIRE.

BABWORTH.

Fellow:—
Parkin: William.

BINGHAM.

Professional Associate:—
Pain: William Henry.

CLIFTON.

Fellow:—
Haynes: Henry.

EAST BRIDGFORD.

Fellow:—
Beaumont: Charles.

EPPERSTONE.

Fellows:—
Huskinson: Thomas William.
Huskinson: William Lambe.

MANSFIELD.

Fellows:—
Turner: Frederick John.
Vallance: Robert Frank.

Professional Associates:—
Butterworth: Josiah.
Crampton: Arthur Wesley.

MANSFIELD WOODHOUSE.

Professional Associate:—
Crosier: Charles.

NOTTINGHAMSHIRE—*continued.*

NEWARK.

Fellow:—
Bailey: William Smith.

Professional Associate:—
Wigram: Henry Joseph.

NOTTINGHAM.

Fellows:—
Barnes: John William James.
Booker: Frank William.
Calvert: Arthur Richard.
Evans: Robert.
Hine: George Thomas.
Walker: Herbert.
Walker: Joseph.
Wright: Charles William.

Professional Associates:—
Noble: Edmund James.
Payne: William Percy.

NUTTALL.

Fellow:—
Taylor: Samuel.

Professional Associate:—
Taylor: William Henry.

OLLERTON.

Fellows:—
Bell: Joseph Askew.
Wordsworth: Robert Walter.

ORSTON.

Professional Associate:—
Wright: Ernest Beresford FitzHerbert.

OSBERTON.

Fellow:—
Lister-Kaye: Charles Wilkinson.

RADCLIFFE-ON-TRENT.

Fellow:—
Morris: Charles.

RETFORD.

Fellow:—
Walker: Joshua.

SOUTH COLLINGHAM.

Fellows:—
Wigram: John.
Woolley: Reginald.
Woolley: Thomas Cecil Smith.

Professional Associate:—
Meacher: Sydney George.

WELBECK.

Professional Associate:—
Tate: Joseph George.

WOLLATON.

Professional Associate:—
Allsebrook: Arthur.

WORKSOP.

Fellow:—
Turner: Thomas Warner.

OXFORDSHIRE.

BANBURY.

Fellow:—
Maxwell: Joseph Archibald.

BICESTER.

Fellows:—
Holiday: Frederick Dean
Holiday: Percy Cave.

GORING-ON-THAMES.

Professional Associate:—
Gale: Harry.

HENLEY-ON-THAMES.

Fellows:—
Simmons: Charles.
Simmons: Charles Franklin.
Simmons: William Anker.

Professional Associate:—
Heal: Harold.

MIDDLETON-STONEY.

Fellow:—
Little: William Davis.

OXFORD.

Fellows:—
Castle: Arthur.
Castle: Harold.
Field: Francis Hayward.
Jones: Francis William.
Lightfoot: Henry Le Blanc.
Scovell: John.

Professional Associate:—
Rose: Edward Joseph.

SHIRBURN.

Fellow:—
Watson: James Bruce.

Professional Associate:—
Watson: David Alexander.

WITNEY.

Fellow:—
Habgood: Henry Charles

WROXTON.

Fellow:—
Davis: Charles Edward

RUTLANDSHIRE.

OAKHAM.

Fellows:—
Royce: David Needham.
Royce: John.

SHROPSHIRE.

ADMASTON.

Professional Associate:—
Parker: Howard.

ACTON REYNALD.

Professional Associate:—
Astley: Reginald Basil.

ASTON-ON-CLUN.

Fellow:—
Wolley: Thomas John.

BRIDGNORTH.

Fellows:—
De Wend-Fenton: William.
Wyley: Henry James.

BROMFIELD.

Fellow:—
Fenn: Andrew Thomas Cranage.

CHESWARDINE.

Fellow:—
Chichester: Richard Herbert.

CHIRBURY

Fellows:—
Morris: Edward Henry.
Morris: William Henry.

CLEOBURY NORTH.

Fellow:—
Dodgson: Wilfred Longley.

CONDOVER.

Fellow:—
Carnell: Sydney George.

ELLESMERE.

Fellow:—
Tower: Brownlow Richd. Christopher.

HAWESTONE.

Fellow:—
Hall: William Timothy.

HINTON.

Professional Associate:—
Ethelston: Hugh Wicksted.

KNOCKIN.

Fellow:—
Griffiths: Edward,

LUDLOW.

Fellows:—
Dodgson: Wilfred Longley.
Fenn: Thomas.

SHROPSHIRE—*continued.*

LYDBURY NORTH.

Fellows:—
Newill: Robert Henry.
Ward: Felix John.

MUCH WENLOCK.

Fellow:—
Thursfield: Thomas Howells.

OSWESTRY.

Fellow:—
Lawford: William Robinson.

SHREWSBURY.

Fellows:—
Bather: John T.
Burd: Timotheus Henry.
Davis: Alfred Thomas.
Evans: William Ernest.
Hickman: Thomas.
Owen: Henry.
Wyley: William John.

Professional Associates:—
Armytage: Francis Reginald.
Salt: Reginald Nowell.

UPPINGTON.

Fellow:—
Ashdown: Augustus Harding.

WHITCHURCH.

Fellow:—
Palamountain: Joseph William.

SOMERSETSHIRE.

BABINGTON.

Professional Associate:—
Knatchbull: Wyndham Persse.

BATH.

Fellows:—
Farwell: Frederick George.
Silcock: Thomas Ball.
Spackman: Charles Chantry.
Spackman: Henry.

BRUTON.

Fellow:—
Bennett: Thomas Oatley.

CHARD.

Fellow:—
Madge: John.

Professional Associate:—
Cook: Frederick Roper.

HUTTON

Fellow:—
Edwards: Arthur Phippen.

SOMERSETSHIRE—*continued.*

MISTERTON.

Fellows :—
Combes : Cyrus.
Parsons : Frank Donisthorpe.
Parsons : Robert Maurice Peters.

NORTH CURRY.

Fellow :—
Peard : John Grigg.

Professional Associate :—
Whatley : Ernest John.

SHEPTON MALLET.

Fellows :—
Heard : Herbert.
Wainwright : Charles Rawlinson.

STAPLEGROVE.

Fellow :—
Shufflebotham : John Henry.

TAUNTON.

Fellow :—
Trepplin : Ernest C.

WELLS.

Fellows :—
Hippisley : Edwin Maggs.
Hippisley : William John.

WESTON-SUPER-MARE.

Fellow :—
Wooler : Walter Hernaman.

Professional Associate :—
Gayer : Alfred Edward.

WILLITON.

Fellow :—
Andrew : Thomas Hawkes.

YATTON.

Fellow :—
Birch : Francis Julian Lawrence.

YEOVIL.

Fellow :—
Tory : John Edward.

Professional Associate :—
Roberts : Joseph William George.

STAFFORDSHIRE.

AUDLEY.

Professional Associate :—
Bibby : Thomas.

STAFFORDSHIRE—*continued.*

BURTON-ON-TRENT.

Fellows :—
Harrison : Charles.
Rowland : Joseph Samuel.
Winterton : Wm. Moxon.

Professional Associate :—
Evans : Rupert Maurice.

DRAYTON.

Professional Associate :—
Humphry : Martin George.

ENDON.

Fellow :—
Heaton : George Herbert.

ENVILLE.

Fellow :—
Punchard : Frederick Burt.

HANLEY.

Fellows :—
Burton : Amos.
Forshaw : Edward.

KEELE.

Fellow :—
Boothby : Henry Vernon.

LICHFIELD.

Fellows :—
Hussey : Robert.
Inge : Charles Henry.
Winterton : Harry John Campion.

LITTLE INGESTRE.

Fellow :—
Mynors : Walter Charles Towers.

PENKRIDGE.

Fellow :—
Foden : Edward Antrobus.

RUGELEY.

Professional Associate :—
Hall : Thomas Biddle.

STAFFORD.

Fellows :—
Sandy : Henry.
Turnor : Exsuperius Weston.

Professional Associate :—
Smithells : Edwin.

STOKE-UPON-TRENT.

Fellow :—
Lynam : Charles.

STAFFORDSHIRE—*continued.*

STRAMSHALL.

Fellow:—
Forshaw : Edward.

TAMWORTH.

Fellow:—
Arnold : William

Professional Associates:—
Bidwell : Shelford.
Humphrey : Martin George.

TETTENHALL.

Fellow:—
Pearse : Octavius Burroughes.

UTTOXETER.

Fellow:—
Hardy : Richard Thomas Ash.

WALSALL.

Professional Associate:—
Charles : Michael Thomas.

WOLVERHAMPTON.

Fellows:—
Duncalfe : Henry George.
Nock : Benjamin Bowen.

Professional Associate:—
Vale : Henry.

SUFFOLK.

BECCLES.

Fellow:—
Pells : Arthur

BURY ST. EDMUNDS.

Fellows:—
Blencowe : George.
Scott : Archibald Lacy.
Scott : Henry Lacy.

EYE.

Fellow:—
Garrard : Norton Burroughs.

FELMINGHAM.

Professional Associate:—
Barratt : Leigh.

FRAMLINGHAM.

Professional Associate:—
Cook : Edward Arthur.

GREAT THURLOW.

Professional Associate:—
Stallard : Harold Orlando.

HORSECROFT.

Fellow:—
Simpson : Robert Thomas.

SUFFOLK—*continued.*

IPSWICH.

Professional Associates:—
Bond : Frederick George.
Cheney : Edwin John.
Menmuir : Robert William.
Turner : Percy.

LOWESTOFT.

Fellow:—
Pells : Arthur.

NEWMARKET.

Fellow:—
Boa : Andrew.

SOMERLEYTON.

Fellow:—
Rix : George Kerry.

SUDBURY.

Fellow:—
Hayward : Thomas William Alfred.

WOODBRIDGE.

Fellow:—
Arnott : John.

SURREY.

ADDISCOMBE.

Professional Associate:—
Berry : Charles Windsor.

BYFLEET.

Professional Associate:—
Muir : James.

CAMBERLEY.

Professional Associate:—
Norris : Edward James.

CARSHALTON.

Professional Associate:—
Aylen : Cecil Hugh.

CATERHAM.

Professional Associate:—
Scrivener : Charles John.

CHERTSEY.

Professional Associate:—
Waterer : Clarence.

COBHAM.

Professional Associate:—
Waterfield : Horace Clare.

Associate:—
Seth-Smith : Archibald.

SURREY—*continued.*

DORKING.

Fellows :—
White : Charles Alexander.
White : James Alexander.

EGHAM.

Fellow :—
Finn : Herbert Archibald.

Professional Associate :—
Paice : William, Jun.

ENGLEFIELD GREEN.

Fellows :—
Menzies : William.
Simmonds : Frederick.

EPSOM.

Fellow :—
Grellier : Harley Mair.

Professional Associate :—
Flight : Alfred.

ESHER.

Professional Associate :—
Rand : John.

FARNHAM.

Fellows :—
Eggar : James Alfred.
Nash : Alfred James.

Professional Associate :—
Williams : William Welsby.

Associate :—
Wing : Thomas Twining.

GODALMING.

Fellows :—
Mellersh : Alfred William.
Shearburn : Harry.

Professional Associate :—
Baverstock : Harold Bridge.

GODSTONE.

Professional Associate :—
Wordsworth : Christopher.

GUILDFORD.

Fellows :—
Baxter : George.
Ellis : Ernest Harold.
Lee : William.
Messenger : William Harry.
Thurgood : Albert Edward.

Professional Associates :—
Hewett : George Thompson.
Soutter : Ernest.

KINGSTON-ON-THAMES.

Fellows :—
Bond : Erasmus.
Horsfield : J. Nixon.
Page : George Frederick.
Phillips : William Edwin.
Saunders : Samuel Brown.

Professional Associate :—
Hardwick : Arthur Jessop.

SURREY—*continued.*

LEATHERHEAD.

Fellow :—
Osenton : Charles.

LIMPSFIELD.

Fellow :—
Wells : Frederic Beauchamp.

MICKLEHAM.

Professional Associate :—
Hodgson : Archibald Sanford.

MITCHAM.

Fellow :—
Chart : Robert Masters.

NEW MALDEN.

Fellow :—
Palmer : William Edward King.

NUTFIELD.

Fellow :—
Martin : Howard,
Member of Council.

OCKHAM.

Fellow :—
Sowels : William Clowes.

OXTED.

Fellows :—
Bailey : Leonard.
Osenton : George, Jun.

PURLEY.

Fellow :—
Webb : William.

REDHILL.

Fellow :—
Stacey : Harrie.

Professional Associate :—
Mew : Robert Heath.

REIGATE.

Fellows :—
Burchell : Sidney Herbert.
Clutton : Ralph William.

Professional Associates :—
Carr : Thomas Edmund.
Foulkes : Noel Mackintyre.
Morrison : Gerard Donald.

RICHMOND.

Fellows :—
Chancellor : Albert.
Hannon : Reginald St. John.
Heasler : Holland Charles.
Houghton : John Pounds.
Partridge : Edward John.

Professional Associates :—
Bingham : William Raper.
Yewdall : Francis Edward.

RIPLEY.

Fellow :—
Noel : Bryon Bruce.

SURREY—*continued.*

SURBITON.

Fellow :—
Jerome : Thomas Stroud.

Professional Associate—
Evered : Gillibrand Elwin.

SUTTON.

Professional Associate :—
Stimson : Edward Frederick.

WALLINGTON.

Fellows :—
Jopling : Joseph.
Thompson : George William.

WALTON-ON-THAMES.

Fellow :—
Dash : Roland Ashford.

WEYBRIDGE.

Fellows :—
Pilditch : Philip Edward.
Watson : Alfred.

Professional Associates :—
Bruzaud : George Joseph.
Leese : Vernon Francis.

WOKING.

Fellow :—
Reffell : Charles Arthur.

Professional Associates :—
Mann : Frederick Charles Thomas.
Thurgood : Leonard Fielder.

SUSSEX.

BRIGHTON.

Fellows :—
Chapman : George James.
Ingram : Walter Fielde.
May : Francis John Charles.
Parsons : Frederick Cecil.
Welch : Frederick William.
Wilkinson : Thomas.

Professional Associates :—
Cox : Reginald John.
Croft : George Herbert.
Lampard : Sydney Martin.
Mellor : James Frederick.
Udny : Augustus Charles.

CHICHESTER.

Fellows :—
Hobgen : Francis Neale.
Wyatt : Herbert Guy Buckell.
Wyatt : Oliver Newman.

CRAWLEY.

Fellow :—
Gardner : Gilbert.

CROWBOROUGH.

Fellow :—
Parris : Charles John.

SUSSEX—*continued.*

EASTBOURNE.

Professional Associates :—
Killick : Anthony Edward.
Webber : Henry Stanton.
Woolnough : John William.

EAST GRINSTEAD.

Fellow :—
Turner : Charles.

Professional Associate :—
Genge : William Pope, Junr.

FIRLE.

Professional Associate :—
Scarlett : Harry.

HAILSHAM.

Fellows :—
Burtenshaw : Albert.
Burtenshaw : Albert King.

HASTINGS.

Fellows :—
Bowley : John Cross.
Dray : Alfred.
Woodhams : James.

Professional Associates :—
Hardiman : Harry.
Miller : George Frederick.
Parks : Walter.

HAYWARD'S HEATH.

Fellows :—
Bannister : Thomas.
Ogilvie : Robert Mathewson.

HORSHAM.

Fellows :—
Chasemore : Philip.
King : Frank Hulme.

HOVE.

Fellows :—
Hudson : Edward William.
Jenner : William.
Welch : Frederick William.
Wilkinson : Thomas.

LEWES.

Fellows :—
Card : Henry Curtis.
Davey : Henry Thomas.
Ingram : Walter Fielde.
Morris : Herbert.
Powell : Hubert John.
Powell : Reginald Henry.

Professional Associates :—
Card : Henry.
Dyer : Frederick Burfield.

SUSSEX—*continued.*

LITTLEHAMPTON.

Fellow:—
Howard : Harry.

PETWORTH.

Fellows:—
Taylor : Matthew.
Watson : Herbert Edward.
Watson : Herbert John.

PEVENSEY.

Professional Associate:—
Brand : Edmund.

RYE.

Fellow:—
Reeve : Kingsnorth.

Professional Associate:—
Cory : Edward John.

ST. LEONARDS.

Fellow:—
Beard : Edwin Thomas.

Professional Associate:—
Kennett : Charles Arthur.

SIDLESHAM.

Fellow:—
Hobgen : Thomas Cecil.

SLINFOLD.

Professional Associate:—
Child : Charles.

SOUTHWATER.

Fellow:—
Smith : Sidney.

UCKFIELD.

Fellow:—
Colgate : Thomas.

Professional Associate:—
Burder : Reginald Edward Campbell.

Associate:—
Malden : Walter James.

WADHURST.

Fellow:—
Austen : Frank.

WARWICKSHIRE.

ALCESTER.

Fellow:—
Raikes : Col. George Whittington.

ATHERSTONE.

Professional Associate:—
Beach : Archibald William Hicks,

WARWICKSHIRE—*continued.*

BIRMINGHAM.

Fellows:—
Bettridge : Edward.
Couchman : Robert Edward
Eayrs : John Thomas.
Fowler : Gerard Edmund.
Fowler : Henry.
Fowler : Richard.
Fowler : William.
Gibson : Denston.
Grimley : Edwin Fearn.
Grimley : Thomas.
Hadley : Frank.
Hedley : Robert Wilkin.
Hendriks : Henry.
Holbeche : Robert Neville.
Jenkins : Oswald.
Kenwrick : George.
Lakin-Smith : Ernest.
Ludlow : Walter Robert.
Mason : William Arthur.
Mathews : George Spencer,
Member of Council
Mathews : Lewis Osler.
Pemberton : Charles Oliver Paget.
Pinney : Frederick Wyldbore Digby
Pinson : Gilbert.
Price : John.
Robins : William Henry.
Roderick : John.
Sayer : George William.
Smith : Frank.
Tonson-Rye : John Reginald.
Williams : Edward Bickerton.
Willmot : George Dyott.
Willmot : John.

Professional Associates:—
Hawes Frederick Kirk.
Redfern : Charles Frederick.
Orchard : Sydney Samuel.
Thompson : Harold Steuart.

EDGBASTON.

Fellow:—
Lakin-Smith : Ernest.

HARBORNE.

Professional Associate:—
Barclay : Thomas

KNOWLE.

Fellow:—
Ludlow : Walter Robert.

LEAMINGTON.

Fellows:—
Fayerman : George Metcalfe.
Southorn : Charles Herbert.

LEEK WOOTTON.

Fellows:—
Donne : Henry.
Raffety : Herbert William.

MILVERTON.

Fellow:—
Smith : Frank William.

WARWICKSHIRE—*continued.*

NUNEATON.

Fellows:—
Dawson : George Crosbie.
Evans : Walrer Pearson.
Stewart : Samuel Parr.

Professional Associates:—
Bryan : Arthur.
Staley : Albert Henry.

SPARKBROOK.

Professional Associate:—
Baylis : Albert Edward.

STARTON.

Fellow:—
Gilpin-Brown : William Dundas.

STRATFORD-ON-AVON.

Fellow:—
Deer : Edward.

Professional Associate:—
Armstrong : John William Wilson.

SUTTON COLDFIELD.

Professional Associate:—
Hipsley : Frederic William.

WARWICK.

Fellows:—
Fosbery : William Thomas Exham.
Margetts : John William.

WESTMORELAND.

APPLEBY.

Professional Associate:—
Kelly : George William Calver.

KENDAL.

Fellows:—
Banks : John.
Hoggarth : Arthur.
Hoggarth : Edwin,
Webster : Alexander.

KIRKBY LONSDALE.

Fellow:—
Punchard : Frederick.

MILNTHORPE.

Fellow:—
Holme : John.

WINDERMERE.

Professional Associate:—
Jackson : Edward Henry.

WILTSHIRE.

BEMERTON.

Fellow:—
Squarey : Newell William Pitts

CHIPPENHAM.

Fellows:—
Brinkworth : Robert Edwin.
Furmedge : John Harris.
Marshall : Lionel Hasler.
Smith : Henry Herbert.
Watkins : Robert Arundel.

Professional Associates:—
Brooks : William Nathaniel.
Chipp : George.

DOWNTON.

Fellow:—
Squarey : Elias Pitts,
Past-President.

Professional Associate:—
Wrightson : John Frederick Hutton.

Associates:—
Fream : William.
Wrightson : John.

HAM.

Professional Associate:—
Burder : Reginald Edward Campbell.

MARLBOROUGH.

Fellow:—
Jeans : Mark.

PEWSEY.

Fellow:—
Ferris : George.

Professional Associate:—
Puckridge : Percival Martin.

SALISBURY.

Fellows:—
Bath : Fred.
Canning : William Browne.
Gater : Caleb William.
Hannen : Reginald St. John.
Rawlence : Ernest Alfred.
Rawlence : James Edward.
Rigden : Francis.
Squarey : Elias Pitts,
Past-President.
Squarey : Newell William Pitts.
Waters : Edward.
Woolley : John Turton.

Professional Associates:—
Martin : John Pattinson.
Meyer : Horace Leycester.
Wheeler : Charles Trevor Ogle.

SUTTON BENGER.

Professional Associate:—
Harrison : Henry Beauchamp.

WILTSHIRE—*continued.*

SWINDON.

Fellows:—
Bishop: Charles.
Pritchett: Ellis Herbert.

Professional Associate:—
Blythe: Harold King.

TISBURY.

Fellow:—
Combes: Cyrus.

TROWBRIDGE.

Fellow:—
Mundy: Herbert.

Professional Associate:—
Snailum: Walter Wadman.

WOOTTON-BASSETT.

Fellow:—
Baines: Martin Talbot.

WORCESTERSHIRE.

BALSALL HEATH.

Professional Associate:—
Perkins: Joseph.

EVESHAM.

Fellows:—
Righton: Edward Grantham.
Smith: William.

GREAT MALVERN.

Professional Associate:—
Shorney: Arthur Shepherd.

KIDDERMINSTER.

Fellow:—
Joseland: Charles.

KINGS NORTON.

Fellow:—
Tomson: James John.

LYE.

Professional Associate:—
Weaver: Henry Percival Francis.

MADRESFIELD.

Fellow:—
Stallard: William.

Professional Associate:—
Hunt: George Whitaker.

MALVERN LINK.

Fellow:—
Stallard: William.

WORCESTERSHIRE—*continued.*

MALVERN WELLS.

Fellow:—
Chamberlain: George Arthur Raddon

MOSELEY.

Professional Associate:—
Type: Marcus Oswald.

STOURBRIDGE.

Fellows:—
Fiddian: William.
King: Henry.
Punchard: Frederick Burt.

Professional Associate:—
Barratt: Harry.

STOURPORT.

Fellow:—
Clarke: Alfred Dudley.

WORCESTER.

Fellows:—
Buck: Albert,
Vice-President.
Buck: Herbert Wilson.
Everill: Frank.
Parker: William Henry.

YORKSHIRE.

ABERFORD.

Professional Associate:—
Prater: Thomas Herbert.

BALDERSBY.

Fellows:—
Gregson: William.
Peirson: George Brodrick

BARNSLEY.

Professional Associate:—
Wade: Henry.

BEDALE.

Fellow:—
Clarke: Christopher.

BEVERLEY.

Fellow:—
Evans: William.

BINGLEY.

Fellow:—
Armistead: Richard.

Professional Associate:—
Salt: Harrold Crossley.

YORKSHIRE—*continued.*

BRADFORD.

Fellows:—
Cowgill: Brian Bollans Hird.
France: Arthur Alderson.
France: Charles.
Gott: Charles.
Gott: Charles Henry.
Hindle: John.
Jackson: Samuel.
Smith: Frederic Ellison.
Smith: Harry Russell.
Smith: Wheater.

Professional Associates:—
Jackson: Leonard Labrey.
Priestman: Alfred Tuke.

BRIGHOUSE.

Fellow:—
Armytage: Sir George, Bt.

DEWSBURY.

Fellow:—
Marriott: Arthur Sutcliffe.

DONCASTER.

Professional Associate:—
Cooke-Yarborough: Orfeur Frederic.

EBBERSTON.

Fellow:—
Bradley: William Edward.

ESCRICK.

Fellow:—
Walker: Francis Elliott.

FARNLEY.

Professional Associate:—
Weatherill: George Ford.

GOOLE.

Fellow:—
Hobson: Harry.

GUISBOROUGH.

Fellow:—
Clarke: John William.

HALIFAX.

Fellows:—
Buckley: George.
Fox: Charles James.
Horsfall: Richard,
Member of Council.
Horsfall: Richard Edgar.
Jackson: Benjamin Whitehead.

Professional Associates:—
Fox: Charles Edward.
Hebblethwaite: Charles Henry.
Weir: James Scott.

HARROGATE.

Fellow:—
Renton: George.

Professional Associates:—
Dudley: Roland.
Lofthouse: Albert Wilson.

YORKSHIRE—*continued.*

HEBDEN BRIDGE.

Professional Associate:—
Sutcliffe: James Henry.

HUDDERSFIELD.

Fellows:—
Abbey: Joe Burman.
Butler: Charles.
Crowther: John Herbert.
Demetriadi: Thomas Marsden.
Dransfield: Henry Brook.
Hanson: John Henry.

Professional Associates:—
Kaye: Herbert.
Mallinson: Charles Herbert.
Shaw: Arthur.

HULL.

Fellows:—
Bilson: John.
Botterill: William.
Brodrick: Frederick Stead.
Fryer: George.
Hebblethwaite: Louis.
Todd: William Henry.
Watson: John.
Wellsted: William Henry.
White: Alfred Edward.

Professional Associates:—
Clarke: Charles Wentworth.
Jackson: Alfred Ernest.

KEIGHLEY.

Fellow:—
Broster: Robert Buck.

Professional Associate:—
Weatherhead: David Wilkinson

LEEDS.

Fellows:—
Clare: Edward Lovell.
Fawcett: John Mortimer.
Fenwick: Thomas.
Gott: Frank.
Hepper: John.
Hollis: Walter Dawson.
Leather: George Herbert.
Leather: William Beaumont.
Oldroyd: Linley.
Richardson: John.
Winn: Thomas.

Professional Associate:—
Pole: Alexander Charles Reginald

LOWTHORPE.

Fellow:—
Piercy: Henry Onslow.

Professional Associate:—
Piercy: Frederic Onslow.

MALTON.

Fellow:—
Abbott: Robert Thomas G.

MIDDLEHAM.

Professional Associate:—
Maughan: John.

YORKSHIRE—*continued.*

MIDDLESBOROUGH.

Fellow:—
Lofthouse: Roger.

MORLEY.

Professional Associate:—
Booth: Ernest Witton.

OULTON.

Fellow:—
Farrer: John,
Member of Council.

OUSBURN.

Professional Associate:—
Bower: Arthur Wentworth Chivers.

PATELEY BRIDGE.

Professional Associate:—
Boord: Walter Bertram.

PENISTONE.

Professional Associate:—
Hinchcliffe: John, Jun.

PONTEFRACT.

Fellows:—
Kelly: John George.
Watson: John, Jun.

RAWCLIFFE.

Fellow:—
Wright: James.

ROTHERHAM.

Fellow:—
Stirton: Thomas.

Professional Associate:—
Rawstron: Charles Oliver.

SEACROFT.

Fellow:—
Townend: William.

SHEFFIELD.

Fellows:—
Fowler: Frederick.
Fowler: Reginald William.
Innocent: Charles John.
Marshall: Peter.
Sandford: Charles Sidney.
Wilde: William.

Professional Associates:—
Burman: William.
Denton: William.

SKIPTON-IN-CRAVEN.

Professional Associate:—
Thompson: Charles William George Hugh.

YORKSHIRE—*continued.*

SKIRLAUGH.

Professional Associate:—
Hollis: Ralph.

SLEIGHTS.

Fellow:—
Popple: John.

WAKEFIELD.

Fellows:—
Greaves: John Oldroyd.
Kaye: John Edward.
Massie: Frank.

Professional Associates:—
King: Walter Nike.
Turner: Vincent.

WENSLEY.

Professional Associate:—
Petch: John Stonehouse.

WHITBY.

Fellow:—
Popple: John.

YORK.

Fellows:—
Cox: Edward Samuel.
Clutton: William James.
Forbes: Charles Mansfeld.
Fryer: George.
Jolly: John Hawkins.
Watson: Herbert Edward.

Professional Associates:—
Kerr: Arthur Herbert.
Lee: George Cansfield.
Terry: Francis William.
Wheldon: Martin Lowish.

ISLE OF MAN.

DOUGLAS

Fellow:—
Kerruish: William Maltby.

Professional Associate:—
Kay: Walter Robert.

CHANNEL ISLANDS.

GUERNSEY.

Professional Associates:—
Constable: John.
Morrish: Hugh Kenneth.

IRELAND.

ARMAGH.

ARMAGH.

Fellow:—
Alexander : Henry Geo. Samuel, Major.

ANTRIM.

ANTRIM.

Fellows:—
Barton : Henry Dupré Malkin.
Cordner : Clement Kennedy.

BALLYCASTLE.

Fellow:—
Johnstone : John Brett.

BALLYMENA.

Fellow:—
Knight : Maurice Charles.

BELFAST.

Fellow:—
Geddes : Andrew Donald.

CRUMLIN.

Fellow:—
McClintock : Chas. Ed., Lieut.-Col.

GLENARM.

Fellow:—
McDonald : Allan.

PORTRUSH.

Fellow:—
Given : Maxwell.

RANDALSTOWN.

Fellow:—
Young : George Lawrence.

CARLOW.

TULLOW.

Fellow:—
Adair : John Olphert.

Professional Associate:—
Butler : Richard Pierce.

CAVAN.

CAVAN.

Fellows:—
Blackley : Travers Robert.
Forbes : Arthur.
Trench : Arthur.

KILLESHANDRA.

Fellow:—
Godley : Archibald.

KINGSCOURT.

Fellow:—
Synge : Edward.

CLARE.

ENNIS.

Fellows:—
Keane : Marcus.
Scott : John William.
Willis : Henry de Laval.

ENNISKERRY.

Fellow:—
Johnson : Jocelyn Otway.

QUIN.

Fellow:—
Studdert : R. R.

CORK.

ARDNAGASHEL.

Professional Associate:—
Hutchins : Richard.

BANDON.

Fellow:—
Hodson : Richard Edmond.

BANTRY.

Fellows:—
Ellis : Ernest Francis Leslie.
Hutchins : Samuel Newburgh.

CHARLEVILLE.

Fellows:—
Sanders : Robert Massey Dawson.
Sanders : Charles Stewart.

CORK—*continued.*

CORK.

Fellows:—
Beamish : William Henry.
Broadley ; Edward Barry.
Carroll ; Theodore Frederick.
French : Savage.
Galbraith : Samuel Horton.
Humphreys : Daniel Peard.
Townsend : Robert Uniacke F.
Warren : Richard Lane.

MALLOW.

Fellows:—
Creagh : Arthur Gethin
Purcell : Wills W.
Vandeleur : Cecil Ernest.

MIDDLETON.

Fellow:—
Fitzgerald : James H. B. Penrose.

MITCHELSTOWN.

Fellow:—
Frend : Henry.

DONEGAL.

BUNCRANA.

Fellow:—
Walmsley : Arthur Tindal.

LIFFORD.

Fellow:—
Cochrane : John.

RAMELTON.

Fellow:—
Swiney : William D.

DOWN.

CASTLEWELLAN.

Fellow:—
Garrett : James Hugh Moore.

DOWNPATRICK.

Fellow:—
Ward : Hon. Somerset.

HILLSBOROUGH.

Fellow:—
M'Clintock : Arthur.

DOWN—*continued.*

MOUNTSTEWART.

Fellow:—
Brownlow : Charles.

NEWCASTLE.

Fellow:—
Brownlow : Claude.

PORTAFERRY.

Fellow:—
Warnock : Thomas Archibald.

ROSTREVA.

Fellow:—
Watson : William James.

WARINGSTOWN.

Professional Associate:—
Waring : Holt.

DUBLIN.

DRUMCONDRA.

Professional Associate:—
Warwick : George Ernest.

DUBLIN.

Fellows:—
Abbott : Joseph.
Baldwin : Chambré Corcor T.
Barton : John George.
Bradshaw : Robert Macnevin.
Comber : Patrick Forstall.
Carson : William B.
Darley : Edmund Sanders.
Dickinson : Charles.
Dolling : Caledon Josias Radclyffe.
Galbraith : Hugh.
Gilcriest : John Fawcett.
Hamilton : Arthur.
Hardman : Edward Chambré.
Holmes : William Eden
Kincaid : James Stewart,
Member of Council.
Kincaid : Joseph Westby.
Lyons : Francis Oliver.
McCaw : George Tyrrell.
Maunsell : Richard Edward.
Roe : William James.
Ruttledge : Thomas Henry Bruen.
Scott : John Russell.
Stewart : Ed. P., Capt.
Stewart : George Pakenham.
Stewart : Henry Pakenham.
Stewart : William Thomas.
Stokes : Richard.
Tanner : Kearns Deane.
Tatlow : John Garnett.
Tatlow : Tissington Wm. Garnett
Tisdall : Henry Chichester.
Townshend : Charles Loftus.
Townshend : James Richard

DUBLIN—*continued.*

Fellows:—
Townshend : Thomas Courtney.
Townshend : Thomas Loftus.
Trench : Philip Francis C.
Vernon : Arthur Pomeroy.
Vernon : Fane.
Willis : Gilbert de Laval.

Professional Associates:—
Delves : Robert Harvey Addington.
Hall : Henry Alexander Thomas.
Hemphill : Charles George Cathcart.
Kincaid : Herbert Edward.

DUNDRUM.

Fellows:—
Trench : James Currie.
Verschoyle : William Henry Foster.

GLENAGEARY.

Professional Associate:—
Goff : James Caulfield.

KILLINEY.

Fellow:—
Stewart : George Francis.

KINGSTOWN.

Fellow:—
Quin : Richard.

MONKSTOWN.

Fellow:—
Watson : Arthur B.

RAHENEY.

Fellow:—
Chatterton : Robert Smith.

FERMANAGH.

BALLINAMALLARD.

Fellow:—
Burke : Henry Anthony.

ENNISKILLEN.

Fellow:—
Maude : Christopher H.

IRVINESTOWN.

Fellow:—
Maude : Anthony F.

GALWAY.

ABDRAHAN.

Fellow:—
Blakeney : Robert Edward.

AHASCRAGH.

Fellows:—
Armstrong : Elliott Graham.
Mahon : George Gilbert.

GALWAY—*continued.*

BALLINASLOE.

Professional Associate:—
Crozier : George Francis.

LOUGHREA.

Fellow:—
Tenor : Edward Shaw.

Professional Associate:—
Moeran : Archibald Edward.

ROUNDSTONE.

Fellow:—
Robinson : Henry Arthur.

KERRY.

ARDFERT.

Fellow:—
Trench : George Frederic.

GORTALEA.

Fellow:—
Hussey : Samuel Murray.

KENMARE.

Fellow:—
Maxwell : Henry Percival.

LISTOWEL.

Fellow:—
Crosbie : James Dayrolles.

TRALEE.

Fellows:—
Denny : Francis M.
Fitzgerald : Robert John.

KILDARE.

CARBERY.

Fellow:—
Tyrrell : Garrett Charles.

CURRAGH CAMP.

Fellows:—
Alcock : Samuel.
Rea : John Todd.

Professional Associate:—
Browning : Egbert George.

KILKENNY.

NISTIOGE.

Fellows:—
Hamilton : Ed. Chetwood, Major.
Newport : George Bellingham.

KILKENNY—*continued.*

KILKENNY.

Fellow:—
Kough: Thomas.

KING'S COUNTY.

MONEYGALL.

Fellow:—
Garvey: Toler, R.

PARSONSTOWN.

Fellows:—
Frend: Causabon William.
Garvey: Toler R., Jun.

TULLAMORE.

Fellow:—
Browne: Ernest H.

Professional Associate:—
Bourcher: Claud J.

LEITRIM.

CARRICK-ON-SHANNON.

Fellow:—
Darley: Henry Ponsonby Shaw.

DROMAHAIR.

Fellow:—
Hewson: George Rawdon M.

LIMERICK.

FOYNES.

Fellow:—
Jameson: Robert William.

LIMERICK.

Fellows:—
Barrington: John Beatty.
Fitzgerald: Peter David.
Hosford: Edward Henry Poe.
Hunt: William Lewis.
Hunt: William Power.
O'Brien: Donough Richard.
Welply: James.
White: Arthur.

LONDONDERRY.

COLERAINE.

Fellow:—
Given: Maxwell.

KILREE.

Fellow:—
Armstrong: Alexander Moore, Capt.

LONDONDERRY—*continued.*

LONDONDERRY.

Fellow:—
Harvey: James George Moorewood.

LONGFORD.

EDGEWORTHSTOWN.

Fellows:—
Edgeworth: Thomas N.
Wilson: Arthur J. de Courcy.

LONGFORD.

Fellow:—
Roberts: Edward Ussher.

LOUTH.

CASTLE BELLINGHAM.

Fellow:—
Butler: Walter Selby.

DROGHEDA.

Fellows:—
Alexander: Robert Arthur.
Wynne: Alfred Henry.

COLLON.

Fellow:—
Gloucester: Thomas Edward.

DUNDALK.

Fellow:—
Bigger: John James Eastwood.

MAYO.

BALLINA.

Fellows:—
Baillie: John Robert.
Knox: Albert Frederic.
Knox: Ernest Henry.
Knox: Albert Henry.

BALLINROBE.

Fellow:—
Burke: William Creaghe.

CASTLEBAR.

Fellow:—
Dean: George B.

WESTPORT.

Fellows:—
Powell: Robert.
Vereker: Henry Robert.

MEATH.

ENFIELD.

Fellow:—
White: Richard.

KELLS.

Fellows:—
Barns: William Arthur.
Farrell: Edward Francis.

MONAGHAN.

GLASSLOUGH.

Fellow:—
McCullagh: James W.

MONAGHAN.

Fellow:—
Rogers: Harry.

QUEEN'S COUNTY.

ABBEYLEIX.

Fellow:—
Fitzherbert: Henry Corry.

BALLYCOLLA.

Fellow:—
Owen: Arthur John.

MOUNTRATH.

Fellows:—
Franks: Mathew Henry.
Franks: Mathew Henry, Jun.

ROSCOMMON.

BOYLE.

Fellow:—
Murphy: James Fraser, Major.

CASTLEREA.

Fellow:—
Bowen: Edward Ferguson.

MOUNT TALBOT.

Fellow:—
Talbot-Crosbie: William D.

ROSCOMMON.

Fellow:—
Coote: Stanley Victor.

SLIGO.

CLEVERAGH.

Fellow:—
Wood-Martin: Henry Roger B.

ROSSES.

Professional Associate:—
Baker: Cecil Cautley.

SLIGO.

Fellows:—
L'Estrange: Christopher A.
Robinson James Dodwell.
Robinson: Richard St. George.
Webb: Charles.

Professional Associate:—
Gethin: Randolph George.

TIPPERARY.

CAHIR.

Fellow:—
Rochfort: William.

ROSCREA.

Fellows:—
Bridge: Henry Powell.
Smith: Sidney Edward.

TYRONE.

CALEDON.

Fellow:—
Hearn: Chas. Richard.

CARRICKMORE.

Fellow:—
Alexander: Chas. Murray, Lieut.-Col.

DUNGANNON.

Fellow:—
Robinson: William Godfrey.

MOY.

Fellow:—
Lloyd: Averall.

OMAGH.

Fellows:—
Irvine: Hy, Lieut.-Col.
Smith: George Young.

WATERFORD.

CAPPOQUIN.

Fellow:—
Marmion: Thomas Henry.

FETHARD.

Fellow:—
Taylor: J. Godfrey L.

WATERFORD—*continued.*

LISMORE.

Fellow :—
Penrose : James Edward.

WATERFORD.

Fellows :—
Anderson : Alex. Carew.
Kelly : Richard Henry.
Penrose : William Robert.

Professional Associate :—
Gibbon : Edward Acton.

WESTMEATH.

AUBURN.

Fellow :—
Coote : Orlando Robert.

KILBEGGAN.

Fellow :—
Quin : William Thomas Cuffe.

KILLUCAN.

Fellow :—
Evans : William.

MOATE.

Fellow :—
Fetherstonhaugh : Theodore.

MULLINGAR.

Fellow :—
Barton : Robert Culley.

STREAMSTOWN.

Fellow :—
Barton : Robert Culley.

WEXFORD.

CASTLEBRIDGE.

Fellow :—
Nunn : William Bolton.

ENNISCORTHY.

Fellows :—
Grey : Charles Grey
Ruttledge : Francis.

GOREY.

Fellows :—
Stopford : The Hon. Geo. Frank Wm.
Turner : Frederick Adolphus B.

NEW ROSS.

Fellow :—
Tyndall : Albert Henry.

WEXFORD.

Fellow :—
Nunn : William Bolton.

WICKLOW.

ARKLOW.

Fellow :—
Tailyour : Alexander.

BRAY.

Fellows :—
Hodson : Gilbert Neville.
Knox : Edward Ernest.

ENNISKERRY.

Fellow :—
Orr : Cecil.

SCOTLAND.

ABERDEENSHIRE.

ABERDEEN.

Fellows:—

Macdonald : Ranald.
Macdonald : Ranald Roderick.
Walker : George James.

NEW DEER.

Fellow:—

Brown : George.

AYRSHIRE.

AYR.

Fellows:—

Johnston : James.
Stevenson : Allan.

GIRVAN.

Fellow:—

Murray : Gilbert.

KILMARNOCK.

Fellows:—

Duke : Freke Guy Rashleigh.
Tannahill : Robert Dunlop.
Turner : Joseph Harling.

Professional Associate:—

Henderson : Richard.

BUTESHIRE.

BRODRICK.

Professional Associate:—

Mather : James.

CAITHNESS-SHIRE.

THURSO.

Fellow:—

Mackay : William.

DUMFRIESSHIRE.

ECCLEFECHAN.

Fellow:—

Lochart : Peter.

LOCKERBIE.

Fellow:—

Aitken : John Malcolm.

MONIAIVE.

Fellow:—

Wallace : William Sydney Smith.

EDINBURGHSHIRE.

EDINBURGH.

Fellows:—

Beattie : William Halden.
Curror : John Fortune.
Davidson : James Inglis.
Marwick : Thomas Purves.
Robertson : Walter Wood
Simpson : George.

Associate:—

Cadell : George.

KIRKNEWTON.

Fellow:—

Glendinning : George Robert.

LIBERTON.

Fellow:—

Mackenzie : Donald Falconer.

FIFESHIRE.

COLINSBURGH.

Fellow:—

Fortune : George Robert.

DUNFERMLINE.

Fellow:—

Bell : Andrew Walker.

FORFARSHIRE.

BROUGHTY-FERRY.

Fellow:—

Winning : Douglas Campbell Wills.

DRYBURGH.

Fellow:—

Murray : Joseph.

HADDINGTONSHIRE.

LONGNIDDRY.

Fellow:—

Connor : George Harry Adams.

KINCARDINESHIRE.

STONEHAVEN.

Fellow:—

Hart : John.

MARYKIRK.

Fellow:—

Sandford-Thompson : Wm James.

KIRKCUDBRIGHTSHIRE.

KIRKCUDBRIGHT.

Fellow:—

Sproat : Robert.

LANARKSHIRE.

GLASGOW.

Fellows:—

Adam: Thomas.
Anderson: Robert.
Barr: James.
Bathgate: Charles S.
Binnie: Thomas,
Member of Council.
Binnie: Thomas, Jun.
Blair: Alexander.
Brown: William.
Bryden: Robert A.
Burnet: Frank.
Copland: William Robertson.
Dansken: Alexander Brown.
Dansken: John.
Davidson: James Inglis.
Fraser: Thomas Smellie.
Fraser: William.
Fyfe: John William.
Gilchrist: John.
Hart: Patrick Campbell.
Henry: James.
Hill: Thomas Nelson.
Howatt: William.
Kirkwood: Charles.
Knox: Alexander.
Laing: David Taylor.
Laing: John.
Lammie: George.
MacCallum: Alexander Duncan.
MacDougall: Robert.
Makins: William Alexander.
Munro: Daniel.
Murdock: Robert.
Murray: John Campbell.
Purdie: Anthony.
Robb: William Johnston.
Scott: Robert.
Sharp: John Grant.
Smellie: George.
Taylor: Robert.
Walker: John.
Wilson: James.
Yuille: Robert.

HAMILTON.

Fellow:—

Cullen: Alexander.

MOTHERWELL.

Fellow:—

McCallum: James.

Professional Associate:—

Welsh: Hugh.

LANARKSHIRE—*continued.*

WISHAW.

Fellow:—

Logan: James.

ORKNEY ISLES.

KIRKWALL.

Fellow:—

MacLennan: William.

RENFREWSHIRE.

GREENOCK.

Fellow:—

Hamilton: Robert.

PAISLEY.

Fellows:—

Davidson: Charles.
Gillespie: John.

ROXBURGHSHIRE.

HAWICK.

Fellow:—

Cunningham: Robert.

STIRLINGSHIRE.

FALKIRK

Fellows:—

Brown: Charles.
Wallace: Thomas Douglas.

DRYMEN.

Fellows:—

Macpherson: William.
Murray: William Watson

ST. NINIANS.

Fellow:—

Whyte: John.

SUTHERLANDSHIRE.

GOLSPIE.

Fellow:—

McLean: Donald.

WALES.

ANGLESEY.

LLANFAIR, P.G.

Fellow:—
Jones : William Edward.

BRECKNOCKSHIRE.

BRECON.

Fellow:—
Williams : Gerald Garnons.

CRICKHOWELL.

Fellow:—
Coles : Samuel Hood Cowper.

CARDIGANSHIRE.

DEVILS BRIDGE.

Professional Associate:—
Lightfoot : Francis Prideaux.

CARMARTHENSHIRE.

LLANWRDA.

Fellows:—
Davies : Cyril Froodvale.
Davies : John Morgan.

LLANELLY.

Fellows:—
Blake : George.
Griffiths : William.
Wilkins : William.

CARNARVONSHIRE.

BANGOR.

Fellow:—
Dew : Willliam Arthur.

Professional Associate:—
Roberts : John.

CONWAY.

Fellow:—
Hooper : Edgar Wilfred.

CRICCIETH.

Fellow:—
Jones : Walter Butler Clough.

LLANDUDNO.

Professional Associate:—
Crockatt : Harry.

DENBIGHSHIRE.

ABERGELE.

Fellow:—
MacNicoll : Douglas Henry.

COLWYN BAY.

Fellow:—
Porter : John Merry.

Professional Associate.
Pineger : James Reginald.

DENBIGH.

Fellows:—
Clough : Richard Charles Butler.

LLANRWST.

Fellow:—
McIntyre : Peter.

FLINTSHIRE.

FLINT.

Professional Associate:—
Hurlbutt : Percival.

HAWARDEN.

Fellow:—
Swetenham : Henry.

MOSTYN.

Fellow:—
Pickering : William Cloves.

ST. ASAPH.

Fellow:—
Birch : Richard Elwyn.

GLAMORGANSHIRE.

ABERCYNON.

Professional Associate:—
Williams : Daniel Smith.

BARRY.

Professional Associate:—
Hinchsliff : Edward Robert.

BRITON FERRY.

Professional Associate:—
Lyons : Edward Colvill.

GLAMORGANSHIRE—*continued.*

CANTON.

Professional Associate:—
Turner: Herbert.

CARDIFF.

Fellows:—
Blosse: Edward F. Lynch.
Corbett: Edwin Wortley Montagu.
David: Edmund Ussher.
Harper: William.
Hern: Samuel
Rees: Ithel Treherne.
Rigg: Charles.
Rooney: Samuel.
Thomas: George.
Thomas: Illtyd.
Waring: Charles Edward.

Professional Associates:—
David: George Willoughby.
Homfray: Herbert Richards.
Lloyd: Donald.
Rickards: Robert Hillier Traherne Anson.
Seel: Robert Harold.
Thomas: William James Edgar.

HENGOED.

Professional Associate:—
Jones: Philip Vivian.

LLANDAFF.

Fellow:—
Jones: David Pugh.

PENARTH.

Professional Associate:—
Clunn: Thomas Henry Gwyther.

PONTYPRIDD.

Fellow:—
Evans: Arthur Owen.

ST. FAGANS.

Fellow:—
Forrest: Robert.

Professional Associate:—
Forrest: William.

SWANSEA.

Fellows:—
Leeder: Ernest Holtham.
Price: Francis Holborrow Glynn.
Rees: William John.
Thomas: Charles John Howell.

MERIONETHSHIRE.

BALA.

Fellow:—
Williams: John.

CORWEN.

Professional Associate:—
Lynes: Humphrey Dod.

TOWYN.

Fellow:—
Gillart: David.

MONTGOMERYSHIRE.

KERRY.

Fellow:—
Poundley: John Edward.

LLANIDLOES.

Fellows:—
Grant: James.
Kerr: John Murray.

NEWTOWN.

Fellow:—
Owen: William Scott.

WELCHPOOL.

Fellow:—
Addie: William Forrester.

PEMBROKESHIRE.

ANGLE.

Fellow:—
Barker: Geoffry Lionel.

CLYNDERWEN.

Professional Associate:—
Thomas: Edward Morgan Dawson.

HAVERFORDWEST.

Fellows:—
Owen: Thomas Henry Rule.
Owen: Thomas Rule.

TENBY.

Professional Associate:—
Whitten: George Jackson.

RADNORSHIRE.

GLASBURY.

Fellow:—
Gunter: James.

BIBL. LONDIN. UNIV.

COLONIES AND FOREIGN PARTS.

BAHAMAS.

Colonial Fellow :—
Miller : William.

BARBADOES.

Colonial Fellow :—
Bowen : Ernest Francis Sinderby.

BLOEMFONTEIN.

Professional Associate :—
Stucké : William Henry.

BRITISH GUIANA.

Colonial Fellow :—
Hodge : Leonard Percival.

BRITISH HONDURAS.

Colonial Fellow :—
Usher : Charles Richard.

BEUNOS AIRES.

Professional Associate :—
Campbell : Charles Howard.

BURMA.

Colonial Fellow :—
Clancey : John Charles.

CAIRO.

Professional Associate :—
Monson : Henry John.

CAPE COLONY.

Professional Associate :—
Palliser : William Arthur.

CAPE TOWN.

Fellows :—
Elton : Herbert Averill.
Martin : Alfred John.
Webb : William Harold.

Professional Associate :—
Leane : Walter Burdett.

CEYLON.

Professional Associate :—
Nicholls : Edward Alfred.

CHINA.

HONG KONG.
Fellow :—
Bryant : George Herbert.

WEI-HAI-WEI.

Fellow :—
Knight : Henry St. John.

DEMERARA.

Colonial Fellow :—
Anderson : Chas. Willgress.

DOMINICA.

Professional Associate :—
Skeat : Arthur Percival.

GIBRALTAR.

Fellows :—
Cardona : Joseph, Jun.
Hammond : Robert William.
Roberts : Samuel.

JAMAICA.

Professional Associate :—
Hollis : Herbert.

Colonial Fellows :—
Baker : William Anthony
McGahan : Amos Harvey.

JOHANNESBURG.

Fellow :—
Farrar : Sidney Howard.

Professional Associates :—
Irvine : Archibald Wyndham.
Stucké : William Henry.

MADRAS.

Colonial Fellow :—
Aiyar : Anathandapuram Vaithcanatha Ramachandra.

MALTA.

Fellow :—
Raves : Bertram Adams.

Professional Associate :—
Jones : John Arthur.

MAURITIUS.

Fellow :—
Bagot : Lewis Brown.

Colonial Fellow :—
Baty : Sebert Conrad Elton.

ST. LUCIA.

Colonial Fellow :—
Cooper : John Ashley.

STRAITS SETTLEMENT.

Fellows :—
Lermit : Alfred William.
Taylor : Edgar Charles.

Professional Associate :—
Neubronner : Harry Alfred.

TASMANIA.

Professional Associate :—
Colbourn : Henry James.

Printed by J. B. Nichols & Sons, Parliament Mansions, Victoria Street, S.W.